

February 1953

50¢

UNITED STATES ARMY

COMBAT FORCES

Journal

Infantry Journal

Artillery Journal

THE PAST IS PROLOGUE

Significant reports by Mr. Truman,
Mr. Lovett and Mr. Pace

Armor and the Indirect Approach

The Artillery Observation Battalion

COMMUNIST MILITARY INDOCTRINATION AND U. S. SOLDIER SATIRE

THE Czechoslovakian Communist government recently had published a book of 81 poems described as being written by Czech soldiers. The verses give an insight into the indoctrination of the soldiers of a Moscow satellite state. The recurring

themes are adulation of Stalin, and determination to defend home, hearth and countryside from the brutal soldiers of Wall Street.

Here are three samples:

Rifle Practice

By Vlastimil Muller

* * *

Shoot
At those
Not able to close
The belts
Over their dollar-swollen bellies.

Against them
We need an Army fighting fit.

* * *

Lullaby

By Alexej Kusak

* * *

Your father has a loaded gun
He stalks in the forest with it
Where there is someone with cruel eyes
Where there is someone with cruel eyes
The messenger of death.

* * *

Everything for Peace

By Ales Rejchrt

* * *

My signature—a shell; my work—a gun
Spoiling the sleep of those in Wall Street.

* * *

... .. That's Stalin's order.
Unshakable truth we gather from his lips.
To all who waver I want to say:
Where Stalin is there too is victory.

IN the introduction to the book General Cenek Hruska, Deputy Minister of National Defense, wrote: "Naturally, our soldier differs from the soldier in a bourgeois army. . ."

To which the bourgeois U. S. Soldier can utter a fervent, "Natch'."

As an expression of that difference we reproduce here two samples from a series of impudently funny ads that have been appearing on the back cover of *The Jolly Roger*, a mimeographed newspaper published in Korea by and for the 32d Infantry regiment.

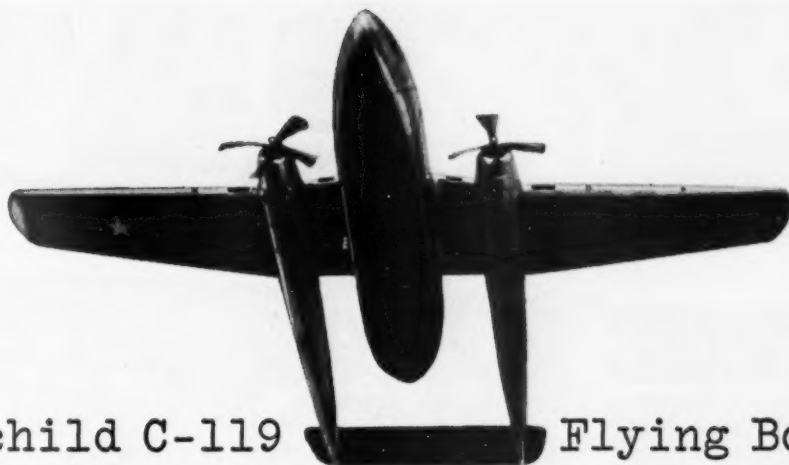
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—H—H—
BEFORE ENEMY ACTION—RECORD
DAY OF MONTH USING HAND MIKE
—H—
BE SURE PAYROLL IS ON WHEN
YOU ENGAGE THE ENEMY
—H—
OUR COMBAT PAY RECORDER
IS THE ONLY ONE ON THE
MARKET THAT RECORDS ENEMY
WEAPONS EXCLUSIVELY
NO CONFUSION OF SORTING
OUT BATTLE NOISES
—H—
WHEN YOU HAVE SIX DAYS OF ACTION
REMOVE THE RECORD—MAIL TO PENNKE
—H—
COLLAPSIBLE COMBAT MESS KIT CORP.
COMBAT PAY INDICATOR BRANCH
WASHINGTON—D. C.



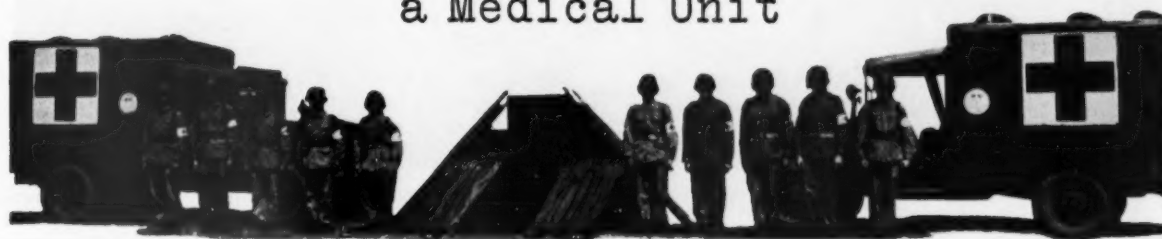
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BRUSH—SHRUBBERY—
TESTS MADE WITH FADEAWAY FLAKES
WERE SO SUCCESSFUL—THE DISGUISE
AREAS—WERE NEVER FOUND AGAIN
—H—
SOLE AGENTS
ALADDIN LAMP WORKS
HIDDEN VALLEY—KOREA

COMMUNISTS, imprisoned in their own dogma, cannot conceive that any American would dare poke fun at such a great American business institution as advertising and in satire that plays with his own pay and allowances to boot.

WHICH mind will last longer in battle? The free, flexible imaginative mind that can invent the "Collapsible Combat Mess Kit Corp." or the frustrated, bitter, parrot-like chanting of the line that "Where Stalin is there too is victory."?



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Motor trucks took hours. Eventually these helicopters will carry passengers and freight, as well as mail, to 40-odd cities in nearby New York, Connecticut and New Jersey.

AROUND THE WORLD WITH THE FLYING JACK-OF-ALL-TRADES



HIT AND RUN—U. S. Marine ingenuity and cooperation solved the problem of how to launch a rocket attack on enemy strong points, then shift positions before rocket smoke trails and dust could be used by the enemy as a guide for counter-battery fire. Here a Sikorsky Marine helicopter positions the rocket launcher and ammunition a short distance behind the front lines.



SAVING TIME AND EXPENSE—More efficient use of time is always an objective in modern business. To provide speedy, flexible transportation, the Rockwell Manufacturing Company of Pittsburgh, Pa., has adapted a Sikorsky S-55 to its extensive operations. Now engineers and operating executives go by helicopter from plant to plant. The company says overhead savings will be substantial.



LIFTED TO SAFETY—Hovering over simulated destruction, a Sikorsky helicopter shows its versatility at the Federal Civil Defense Staff College by plucking an "injured man" from the ruins of a "bombed" 5-story building. Civil Defense officials say "There is no limit to the work these helicopters can do . . . in time of war . . . in any emergency."



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U. S. ARMY COMBAT FORCES JOURNAL

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February, 1953

COVER: Night fire in Korea by a 155mm howitzer. This photograph was one selected by the Department of Defense as best typifying Army, Navy and Air Force activities in 1952. (Department of Defense photo by a Signal Corps combat cameraman.)

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★ To the Editors . . . ★

Reader's Contribution

A few months ago, *The JOURNAL* received a telegram from an "Ex Infantryman"—who also signed his name—suggesting an extension of a technical process described in the then current issue. We sent the telegram to the office of the technical branch of the Army involved in the process and asked it to tell us whether the idea had merit or was the dream of a crackpot. Time went by and only recently we learned that the idea had merit, that the Army had been in touch with "Ex Infantryman" to get more information, and that the whole subject was now under wraps. Then we got a letter from the "Ex Infantryman," parts of which follow:

To the Editors:

I have received notice that my suggestion has been placed in research and development and is now classified. Consequently I have stowed away in my safety deposit box all notes and papers on the matter.

Your promptness in rushing the idea to the proper channel helps prove again that "It's not where an idea comes from but the man with enough perception to recognize its value who creates progress."

If *COMBAT FORCES JOURNAL* serves to

generate even a couple of useful ideas a year that may save many casualties or help stop the enemy, I would say the efforts of everyone concerned with the publication were very much worthwhile.

After all, where else but in the *COMBAT FORCES JOURNAL* can an ordinary GI or civilian find a receptive forum for ideas that reach the attention of the top brass and get a helpful shove in the right direction?

If any publicity should ever be given to my little idea, just list me as

G. I. JONES
Ex U.S. Infantry

Spark and Crackle

To the Editors:

This headquarters would like permission to make use of all or part of General Bullene's splendid article on the tactical uses of napalm in your November issue.

We want to use the information as a training aid during demonstrations in the field for the instruction of French, British, Belgian, Dutch and other organizations of Allied Land Forces, Central Europe.

May I also tell you at this time that *COMBAT FORCES* certainly has a lot of spark and crackle to it and we all look forward to receiving it.

LT. COL. ALEX SMITH

Public Information Officer
Allied Land Forces Central Europe
APO 11, c/o PM
New York, N. Y.

• The editors granted this request as we do most such requests for official reproduction of articles in the magazine. Sometimes we can't do it though—for example if the article was borrowed by us from some other magazine. What we would really like to see is such wide distribution of *COMBAT FORCES JOURNAL* that reproduction of its articles would be unnecessary.

Situation No. 2

To the Editors:

I read with great interest General Randle's fine article, "It's Situation No. 2." As a company officer with wide experience in training tactical units, he struck a "pet peeve" that I have nursed for a long time.

Look at a typical company-size tactical outfit in a unit training phase. It is ready to take to the field for a day of small unit tactics. Where is the company commander? Sitting on a court-martial board. Where is the exec? Investigating a LOD case. Where is the platoon leader, first platoon? On TDY to Regiment. Where is the platoon leader, second platoon? He is defense counsel at the same court-martial. Platoon leader, third platoon? Supervising the entire company in small unit tactics.

This is standing situation 365. I have no solution. Do you?

CAPT. IVERY D. STAUFFER
Armor

Reserve Officers Training Corps
Leavenworth High School
Leavenworth, Kan.

To the Editors:

"It's Situation No. 2" in your December issue is one of the finest articles I've ever read.

As a rifle platoon leader in Europe for the last year I've seen many situations similar to those described by General Randle. As a company training officer I've fought for more squad tactics only to find the schedule calling for more C-B-R defense, gas mask drill, and so on. Almost every time we end up with personal hygiene on the schedule. And yet three-fourths of our men don't even know fire and maneuver.

I could go on for days but will close and say again—a damn fine article. Too bad the General's retired!

LT. WORKER

APO 39, c/o PM
New York, N. Y.

Korea—Third Phase

To the Editors:

I have been a subscriber for sixteen years continuously and I cannot estimate the great value that the informative articles in the *JOURNAL* have been to me. But occasionally I notice an article which is composed largely of catchwords, sweet phrases, and a paucity of ideas, information or logic and which does not belong in *COMBAT FORCES JOURNAL*. "Korea—Third Phase" in the December issue is such an article, in my opinion.

The following are excerpts from the article with my comments in parentheses: "It will be quite a while, to be sure, before the ROK Army is strong enough to take over the lines." (Yes, quite and to be sure. Communist China and Russia have armies.)

"Let the ROK government tell how, though wracked by war, it has the freedom to enact laws and follow programs that the United States does not necessarily approve." (Like being annexed by Soviet Russia. Infiltration, assassination, intimidation, bribery and economic pressure have been commonly used by the Communists to weaken or subjugate small neighbor states.)

"So on our side we have truth and righteousness. If we but lift up our eyes . . ." (sweeter than all the roses. Covered all over from head to foot, covered all over with—sweet violets!)

As propaganda for increasing ROK participation—a good idea—in the "police action," "Korea—Third Phase" is a dud on the intelligent minds of *JOURNAL* readers. It serves no useful purpose.

Please give us more articles like "People's War" and "Crisis in Manpower" in

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the same issue. They contain facts we need to know.

LT. OTTO B. ANKERSHEIL
USAR

Marston, Mo.

• We showed Lieutenant Ankersheil's letter to the author of "Korea—Third Phase," who replied in these words:

"Every man to his own opinion and certainly it would be quite an article that would merit the applause of every reader of the *COMBAT FORCES JOURNAL*—especially an article on Korea and America's role in the Far East.

"Lieutenant Ankersheil's sarcastic comment on my statement of the obvious fact that it will be a long time before the ROK Army can take over in Korea would be merited if it wasn't that in the past months so much has been said and written about the 'new' ROK Army that many persons have optimistically concluded that we could get out of Korea as soon as we had trained a few more South Korean divisions.

"I don't follow the Lieutenant's second comment. I thought what I wrote was quite clear: that we should encourage the South Korean government to tell the rest of Asia the truth about its relationship to the U.S. It is well known—at least I thought it was well known—that the present government of South Korea has done some things that our government didn't approve and yet we didn't do what the Communists would do in a similar situation and crack down on the South Korean government. We don't treat the ROK government as a satellite. I must confess I don't understand Lieutenant Ankersheil's comment in the context of what I wrote.

"I thought and I still think that we Americans are so bogged down and frustrated over Korea that we are unable to see the opportunity it gives us to redeem our name in Asia. Perhaps Lieutenant Ankersheil doesn't think 'truth and righteousness' are very strong weapons. I think they are very strong, much stronger than Communist 'intimidation, bribery and assassination,' if properly exploited. We went into Korea to stop aggression and we did turn it back. But military power can't destroy the forces of the aggressor without greatly enlarging the war and probably bringing on another World War. As I see it, the only way out of the stalemate—and the frustration—is to use other weapons: propaganda and psychological warfare. I believe that the combination of military power and propaganda and persuasion that is based on truth and righteousness is an unbeatable combination. My argument is that there should be an increase in the strength of our psychological warfare effort in Asia."

Reaction

To the Editors:

Being a good capital D Democrat, the cover of the January issue made me wonder if you fellows had gone political on

FEBRUARY, 1953



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Sgt. 1st Class Einar H. Ingman U. S. Army Medal of Honor



THE REDS in ambush on the ridge had lain concealed, withholding their fire. Now they opened up. The two squads were trapped. Their leaders were wounded; others were dropping.

Sergeant Ingman took command. He reorganized the survivors, assigned fields of fire, encouraged the men to fight. A red machine gun opened fire. The sergeant charged it alone, neutralizing it with a grenade.

Then he tackled another gun. A grenade and a burst of fire knocked him down, badly wounded. He got up, reached the gun, and dispatched the entire crew. When his squad reached him, they found Sergeant Ingman unconscious—but 100 of the enemy fleeing in panic.

"Bucking the Communists," says Sergeant Ingman, "takes an awful lot of staying power. The G.I.'s have got it. You have, too, when you invest part of your hard-earned pay *regularly* in Bonds."

Bonds are first of all a cash saving for you. But they're also back of our country's *production power*. Which couples up with G.I. *fire power* to keep the peace for all of us.

Peace is for the strong!
For peace and prosperity save with
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Now E Bonds pay 3%! Now, improved Series E Bonds start paying interest after 6 months. And average 3% interest, compounded semi-annually when held to maturity! Also, all *maturing* E Bonds automatically go on earning—at the new rate—for 10 more years. Today, start investing in U. S. Series E Defense Bonds through the Payroll Savings Plan at work.



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and against me. But after reading the lead piece I guess you're up to your old tricks of being right on the ball in giving us outlanders the pitch on what needs to be done and what's coming.

JACQUES STONEPHIZ

Augusta, Me.

Combat Badge

To the Editors:

I happened to glance through your August 1952 issue and found the article about the Combat Infantryman Badge.

Anytime the Badge is issued or worn by a driver or cook or clerk it is being disgraced.

I will admit that once in a great while those men do have to fill in as combat soldiers. But only once in a great while.

They have, especially the cooks, plenty of chow, bunks to sleep in and squad tents while they are in the rear.

That is except for the time or times—which seldom happen—that they live in a hole in the ground. But the line soldier lives in a hole 99 percent of the time, gets C rations and not plenty of them, and he surely does not have a bunk.

Also even when the cooks and clerks are in enemy range they don't have to worry too much about Joe Chink slipping up on them while they are on a listening outpost.

And if the Chinese do slip up that far they have a bunker they can fight from. The men on the listening outpost have nothing but a hole and lucky to have that.

I have yet to see a clerk, cook or driver go on a raid or patrol of any sort.

I have yet to see those men fight hand to hand with a knife.

When those men live in a hole the same as we do for at least six months then I would gladly see them get the CIB.

I consider the CIB next to the CMH.

CPL. GORDON L. SCHEOPP

Co F, 9th Inf Regt

APO 248, c/o PM

San Francisco, Cal.

Unification

To the Editors:

With reference to Colonel Wiener's article in your October issue I would like to see a real unification of the Armed Forces by:

- (1) By having one uniform for all.
- (2) By creating a Department of Service Forces to handle all personnel, legal, medical, logistical matters for the three combat forces.
- (3) Transfer of the Marine Corps to the Army as amphibious or marine divisions.
- (4) Transfer naval and marine air units to the Air Force.

This to me would be real unification. It would save Uncle Sugar a few bucks each year too.

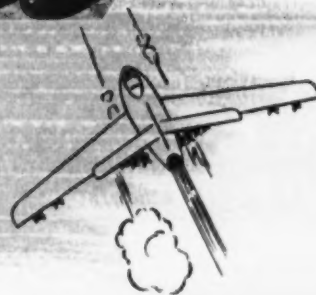
SFC RAYMOND R. BOWLES

APO 317, c/o PM

San Francisco, Calif.

COMBAT FORCES JOURNAL

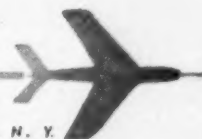
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4th Division I & E

To the Editors:

To keep the record straight, I would like to correct the statement made in Drew Middleton's article, "The Seventh Army," which you published in the August issue:

The statement read:

"One thing that strikes anyone familiar with the Army in Germany is the serious wastage of men on non-essential duties. Listening to the American Forces Network one afternoon, I learned that the program of jazz music to which I listened was sponsored by the Information and Education Division of the 4th Infantry Division. Now the I&E has done good work in Europe with its efforts to tell the soldier why he is, where he is, and what he is fighting for. But does it have to assign men to work out a program of dance music?"

First, there is no Information and Education Division of the 4th Infantry Division. Second, Mr. Middleton apparently means the Information and Education Division of what was, at that time, the European Command, which controls the Armed Forces Network.

The men may have come from the 4th Infantry Division; however, they were not sponsored by the Information and Education section of the Division but are soldiers belonging to the Division Band. The program heard by Mr. Middleton may have been the 4th Division "Militaires," a small

group of musicians who perform as a team on off-duty time.

Information and Education within the 4th Infantry Division does not sponsor special activities but confines itself to the specific job of keeping the soldier informed.

MAJ. ROBERT MAUST
Infantry

4th Infantry Div.
APO 39, c/o PM
New York, N. Y.

FO Teams

To the Editors:

I would like to comment on Captain Bush's "Composite FO Teams" which appeared in the November COMBAT FORCES JOURNAL.

Although my rank doesn't show it, I was senior forward observer for a 4.2-inch mortar platoon until December 5 when I was pulled off to serve the rest of my tour as a squad leader.

I worked with 81s and artillery in the time I spent on the hill and found many things that would be difficult if you had a single FO party.

In a case where the rifle company commander would call for all supporting fires either to fire their FPL or to support a large assault group you wouldn't have enough men to operate the radios and observe with any speed. You run into situations here where you can't have your

communications in a place where one man can observe and also have his radio. In a setup such as this the observer would lose much time.

To the suggestion that we use two of the 600 series radios, I'd like to add that they are very clumsy and heavy. It would be difficult to fire 81s, 4.2s, 105s and 155s as well as the long toms and 8-inch guns at one time with only two radios. You would lose a lot of important time.

Over here we have our radios jammed quite a bit by the enemy. I have seen two radios jammed at the same time but never all four.

In cases where the FOs go on patrol, if one FO is knocked out you would lose all your fire. Also sometimes one of each party has to stay behind to relay from observer to FDC. You wouldn't have enough men under Captain Bush's system.

Under the system we now have, if one man or several are hit there is always some one who can fire. I know that my radio man or I could fire anything we had in Korea and did on several occasions.

I think you will find on everyday fire missions FOs work together enough so that in time each man fires all the weapons and is familiar with the FDC and how the fire commands are given.

I do think that FO parties should be cut to two men in each party. There is no more need for four men in artillery parties than any other. Each party should have an FO and radio man or recon sergeant—whichever you want to call him.

PFC RODNEY RIMBAUGH

APO 25, c/o PM
San Francisco, Cal.

Fifth Army Pilgrimage

To the Editors:

Last spring when we were planning the Fifth Army Reunion Pilgrimage to North Africa and Italy you were kind enough to give it some notice. We now hope you will be interested in knowing that a small group of Fifth Army veterans and their wives had a most memorable six weeks' trip. A highlight was a ceremony at Pontecagnano on the beaches of Salerno, where the cornerstone of the Fifth Army Memorial Nursery was laid on 1 October.

The Fifth Army Memorial Nursery will cost \$10,000 of which only a small portion was raised before the group sailed in September. It would be much appreciated if you could give notice of this, with a plea that all Fifth Army veterans interested in sending a contribution do so to Boys' Town of Italy, Inc., 29 Broadway, New York, mentioning the fact that their donation is for the Fifth Army Memorial Nursery.

It is planned to have the official opening of the nursery on next 9 September, which will be the tenth anniversary of our landings at Salerno.

CHARLES E. SALTZMAN

Fifth Army Assn.
38 E. 57th St.
New York 22, N. Y.

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THE NEW LEADERS . . .

IN THE PENTAGON . . .



Secretary of Defense Charles E. Wilson, his principal deputy and his three service secretaries posed for this picture when they visited the Pentagon before the inaugural of President Eisenhower. *Seated, left to right:* Defense Secretary Wilson and Roger M. Kyes, Deputy Secretary. *Standing, left to right:* Robert B. Stevens, Secretary of Army; Robert B. Anderson, Secretary of Navy; and Harold L. Talbott, Secretary of Air Force. Mr. Kyes, 46, is a General Motors vice

president with 24 years of industrial experience. Mr. Stevens, 53, is a textile manufacturer who served as an artillery second lieutenant in World War I and as a Quartermaster colonel in World War II. Mr. Anderson, 42, is a Texas lawyer and real estate manager. Mr. Talbott, 64, is a Chrysler director and aircraft industry pioneer. In World War I he served in the Signal Corps' aviation section and in World War II he was director of aircraft production for the WPB.

AND ON CAPITOL HILL



Senator Leverett Saltonstall

SENATOR LEVERETT SALTONSTALL of Massachusetts is the new chairman of the Senate Armed Services Committee. During the First World War he was a lieutenant of Field Artillery and served in France with the 26th Infantry Division.

CONGRESSMAN DEWEY SHORT of Missouri is the new chairman of the House Armed Services Committee. He is a veteran congressman with many years of experience on military committees. He was a lieutenant in the Army during World War I.



Congressman Dewey Short

THE PAST IS PROLOGUE

THE new men in the White House and Pentagon—and the new Congress on Capitol Hill—are bringing to our government new vigor, fresh ideas, and high aspirations. These will be made manifest within the months and years to come. As these men settle into their high tasks they will be conscious that their vigor, ideas and aspirations are all modified and enriched by the institutions in which they are working. For much of the strength of government lies in the fact that its institutions, civilian and military, are both stable and flexible, never changing and always changing. In government the past is indeed prologue; the recent and current past as well as the past of older, dimmer times. And so in this period of change*it is the part of wisdom for us to cast a brief backward glance at the accomplishments and the aspirations of the departing leaders whose words may be a beacon that lights the future.

For that reason we present here three statements among the many that have been made by the departing administration.

President Truman in his "State of the Union" message on 7 January spoke plainly and sincerely of the vast new power of our nuclear and thermonuclear weapons and bluntly warned the masters in the Kremlin of the catastrophe another war may bring to the world of men.

Secretary of Defense Robert Lovett tells of the need for a reorganization of the top level of our military organization and suggests certain manifestations of this.

Secretary of the Army Frank Pace, Jr., reviews the research and development accomplishments and programs of the Army.

The soldier reading these three statements will conclude, we believe, that his future, while not easy or hopeful, is a challenging one and well worth experiencing.



THE CHANGING SHAPE OF WAR

From Mr. Truman's State of the Union Message of 7 January

WE have entered the atomic age, and war has undergone a technological change which makes it a very different thing from what it used to be. War today between the Soviet empire and the free nations might dig the grave not only of our Stalinist opponents, but of our own society, our world as well as theirs.

This transformation has been brought

to pass in the seven years from Alamo-gordo to Eniwetok. It is only seven years, but the new force of atomic energy has turned the world into a very different kind of place.

Science and technology have worked so fast that war's new meaning may not yet be grasped by all the peoples who would be its victims; nor, perhaps, by the rulers in the Kremlin. But I have been

President of the United States, these seven years, responsible for the decisions which have brought our science and our engineering to their present place. I know what this development means now. I know something of what it will come to mean in the future.

We in this Government realized, even before the first successful atomic explosion, that this new force spelled terrible

danger for all mankind unless it were brought under international control. We promptly advanced proposals in the United Nations to take this new source of energy out of the arena of national rivalries, to make it impossible to use it as a weapon of war. These proposals, so pregnant with benefit for all humanity, were rebuffed by the rulers of the Soviet Union.

The language of science is universal, the movement of science is always forward into the unknown. We could not assume that the Soviet Union would not develop the same weapon, regardless of all our precautions, nor that there were not other and even more terrible means of destruction lying in the unexplored field of atomic energy.

We had no alternative, then, but to press on, to probe the secrets of atomic power to the uttermost of our capacity, to maintain, if we could, our initial superiority in the atomic field. At the same time, we sought persistently for some avenue, some formula, for reaching an agreement with the Soviet rulers that would place this new form of power under effective restraints—that would guarantee no nation would use it in war.

I DO not have to recount here the proposals we made, the steps taken in the United Nations, striving at least to open a way to ultimate agreement. I hope and believe that we will continue to make these efforts so long as there is the slightest possibility of progress.

All civilized nations are agreed on the urgency of the problem, and have shown their willingness to agree on effective measures of control—all save the Soviet Union and its satellites. But they have rejected every reasonable proposal.

Meanwhile, the progress of scientific experiment has outrun our expectations. Atomic science is in the full tide of development; the unfolding of the innermost secrets of matter is uninterrupted and irresistible. Since Alamogordo we have developed atomic weapons with many times the explosive force of the early models, and we have produced them in substantial quantities.

And recently, in the thermonuclear tests at Eniwetok, we have entered another stage in the world-shaking development of atomic energy. From now on man moves into a new era of destructive power, capable of creating explosions of a new order of magnitude, dwarfing the mushroom clouds of Hiroshima and Nagasaki.

We have no reason to think that the stage we have now reached in the release of atomic energy will be the last. In-

deed, the speed of our scientific and technical progress over the last seven years shows no signs of abating. We are being hurried forward, in our mastery of the atom, from one discovery to another, toward yet unforeseeable peaks of destructive power.

Inevitably, until we can reach international agreement, this is the path we must follow. And we must realize that no advance we make is unattainable by others, that no advantage in this race can be more than temporary.

The war of the future would be one in which man could extinguish millions of lives at one blow, demolish the great cities of the world, wipe out the cultural achievements of the past—and destroy the very structure of a civilization that has been slowly and painfully built up through hundreds of generations.

Such a war is not a possible policy for rational men. We know this, but we dare not assume that others would not yield to the temptation science is now placing in their hands.

WITH that in mind, there is something I would say to Stalin: You claim belief in Lenin's prophecy that one stage in the development of Communist society would be war between your world and ours. But Lenin was a pre-atomic man, who viewed society and history with pre-atomic eyes. Something profound has happened since he wrote. War has changed its shape and its dimension. It cannot now be a "stage" in the development of anything save ruin for your regime and your homeland.

I do not know how much time may elapse before the Communist rulers bring themselves to recognize this truth. But when they do, they will find us eager to reach understandings that will protect the world from the danger it faces today.

It is no wonder that some people wish that we had never succeeded in splitting the atom. But atomic power, like any other force of nature, is not evil in itself. Properly used, it is an instrumentality for human betterment. As a source of power, as a tool of scientific inquiry, it has untold possibilities. We are already making good progress in the constructive use of atomic power. We could do much more if we were free to concentrate on its peaceful uses exclusively.

Atomic power will be with us all the days of our lives. We cannot legislate it out of existence. We cannot ignore the dangers or the benefits it offers.

I believe that man can harness the forces of the atom to work for the improvement of the lot of human beings

everywhere. That is our goal. As a nation, as a people, we must understand this problem, we must handle this new force wisely through our democratic processes.

Above all, we must strive, in all earnestness and good faith, to bring it under effective international control. To do this will require much wisdom and patience and firmness. The awe-inspiring responsibility in this field now falls on a new Administration and a new Congress.

I will give them my support, as I am sure all our citizens will, in whatever constructive steps they may take to make this newest of man's discoveries a source of good and not of ultimate destruction.

WE cannot tell when or whether the attitude of the Soviet rulers may change. We do not know how long it may be before they show a willingness to negotiate effective control of atomic energy and honorable settlements of other world problems. We cannot measure how deep-rooted are the Kremlin's illusions about us. We can be sure, however, that the rulers of the Communist world will not change their basic objectives lightly or soon.

The Communist rulers have a sense of time about these things wholly unlike our own. We tend to divide our future into short spans, like the two-year life of this Congress, or the four years of the next Presidential term. They seem to think and plan in terms of generations. And there is, therefore, no easy, short-run way to make them see that their plans cannot prevail.

This means there is ahead of us a long, hard test of strength and stamina, between the free world and the Communist domain—our politics and our economy, our science and technology against the best they can do—our liberty against their slavery—our voluntary concert of free nations against their forced amalgam of "People's Republics"—our strategy against their strategy—our nerve against their nerve.

ABOVE all, this is a test of the will and the steadiness of the people of the United States.

There has been no challenge like this in the history of our republic. We are called upon to rise to the occasion as no people before us.

What is required of us is not easy. The way we must learn to live, the world we have to live in, cannot be so pleasant, safe or simple as most of us have known before, or confidently hoped to know.



REORGANIZATION AT THE TOP

From a letter by Secretary of Defense Robert Lovett to the President

THE primary purpose of the Department of Defense is, of course, to protect and defend this country. This duty may involve fighting a war. If this becomes necessary, the duty of the Department of Defense is to fight a successful war. . . . The better equipped the Department of Defense is to fight, the better it serves its role of a deterrent to war.

* * *

Under the present Act, and in the event of war, I believe that the present system of controls provided in the legislation for the exercise of authority by the Secretary of Defense in some areas, will prove to be inadequate. . . .

It would in these circumstances be necessary, I believe, to undertake a reorganization which would not only seriously disrupt the effective prosecution of the war but which could not even start until the necessary authority was secured from the Congress.

I conclude, therefore, that we should not deliberately maintain a Department of Defense organization which in several parts would require drastic reorganization to fight a war. As I see it, this reorganization can be made in an orderly fashion under the present workload without too much difficulty.

A few of the more important areas requiring attention are mentioned below.

SECRETARY OF DEFENSE

THE National Security Act of 1947, as amended in 1949, strikes a compromise in many important areas. It has the fault of all compromises and while the amendments materially improve the Act, there are still contradictions and straddles in it. The Act states that the Secretary of Defense is to be "the principal assistant to the President in all matters relating to the Department of Defense." Under the direction of the President

and subject to the provisions of the Act, he has "direction, authority and control over the Department of Defense."

The Joint Chiefs of Staff, according to the Act, are "established within the Department of Defense" and shall be "the principal military advisers to the President, the National Security Council and the Secretary of Defense" and "subject to the authority and direction of the President and the Secretary of Defense," they shall perform certain specified duties.

The question is occasionally raised by legal beavers as to whether or not, in view of vagueness in the language of the Act, the Joint Chiefs of Staff are directly under the Secretary of Defense. . . .

While, in my opinion, the authority granted the Secretary of Defense is superior to any made to the Joint Chiefs of Staff . . . it may be well to remove by legislative amendment this area of possible debate. . . .

. . . [The Act] provides that the three Military Departments shall be "separately administered," while at the same time providing that the Secretary of Defense shall be head of the Department of Defense which shall have within it the three Military Departments over which the Secretary of Defense shall have "direction, authority and control." No great difficulties have been encountered because of this straddle, except in the field of supply warehousing and issue, where certain ardent separatists occasionally pop up with the suggestion that the Secretary of Defense play in his own back yard and not trespass on their separately administered preserves. I feel that the Secretary of Defense clearly has authority to step in where necessary in these fields, provided he does not transfer, reassign, abolish or consolidate any of the "combatant functions assigned to the Military Services" by the Act.

JOINT CHIEFS OF STAFF

IN brief, the weaknesses [in the JCS] stem from (1) excessively rigid statutory prescriptions of functions, (2) rigid statutory composition which makes the agency, in effect, an Interdepartmental Committee, and (3) the requirements in the statute that each agency perform functions inappropriate, if not actually impossible, for an Interdepartmental Committee to perform efficiently and expeditiously.

. . . I do not consider the present organization adequate, . . . because it leaves certain responsibilities obscure [and] does not provide the type of military guidance needed. . . .

The problem . . . is the most difficult and delicate one in the field of our national defense structure since it involves the striking of a proper balance between civilian and military control. It is clear that overall "civilian control" is essential and that it is fundamental to our form of government. Yet civilian judgment must be based on adequate military advice given by professional military men in an atmosphere as free as possible from service rivalries and service maneuvering.

The President, the National Security Council, the Secretary of Defense and the three Service Secretaries clearly must have proper military advice. On the other hand, they should not, in my opinion, attempt to conduct military operations and they should avoid hampering the military in carrying out their specialized functions assigned to them by law. The most effective work which the civilian Secretaries can do lies, as I see it, in the establishment of policies under the guidance of the President, as Commander in Chief, and in the exercise of direction, authority and control of the Military Departments themselves.

By their very make-up it is extremely difficult for the Joint Chiefs of Staff to maintain a broad non-service point of view. Since they wear two hats . . . it is difficult for them to detach themselves from the hopes and ambitions of their own Service without having their own staff feel that they are being let down by their Chief. The maintenance of an impartial, non-partisan position becomes increasingly difficult in times of shortage of either men, money or material. . . .

. . . The present Joint Chiefs of Staff organization is . . . grievously over-worked as a result of the great volume of papers referred to them for their views. In consequence, they are too deeply immersed in day-to-day operations, frequently of an administrative character, to have adequate time to devote to their major responsibilities—the preparation of overall, joint and combined strategic plans, the development of logistic plans, the review of such plans in the light of the material and personnel situation and the effect of new weapons.

The problem above is aggravated by the fact that the Secretary of Defense has no military staff. In consequence, he must refer to the Joint Chiefs of Staff a vast amount of administrative and policy matters, unrelated to their main functions. . . .

Strangely enough, the fact that the Secretary of Defense is prohibited from having a staff is not generally realized.

* * *

The reason for this provision is fairly clear in the legislative history and is a derivative of the line of thinking which developed the compromises through fear of the establishment of an "Armed Forces General Staff" . . . compromise and unnecessary apprehension . . . have succeeded in making the Joint Chiefs of Staff a sort of clearing house for papers instead of having it occupy its rightful position and instead of leaving the members of the JCS adequate time for their great responsibilities.

. . . The broad national service point of view, as compared with the single service point of view, is not merely a problem of the individuals making up the Joint Chiefs of Staff, but is more likely in the Joint Staff which prepares the papers and submits the analysis and studies to the Joint Chiefs of Staff. This Staff of officers of approximately equal numbers from each of the three Armed Services . . . are of relatively junior grades and their future careers and promotions lie in their separate services. It is not unnatural, therefore, that they

should from time to time become the advocate of their own Service's point of view. . . .

* * *

Based on experience so far, I believe that the problem might be solved by a reorganization along the lines of Alternate I. A more radical long-term possibility is indicated in Alternate II below:

Alternate I

(1) Re-define and clarify the functions of the Joint Chiefs of Staff so as to confine them exclusively to planning functions and the review of war plans in the light of new weapons and techniques, transferring the balance of the present military staff functions of the Joint Chiefs under No. 4 below.

(2) The Joint Chiefs of Staff should create a strong planning division which would constitute their principal staff.

(3) It should be clearly understood . . . [that] . . . each Chief of Staff has very broad powers of delegation to his Vice Chief.

(4) The balance of the military staff functions should be transferred to the Office of the Secretary of Defense to provide him with a combined military-civilian staff. This staff would be responsible only to the Secretary of Defense, and through him to the President, and the efficiency ratings and promotions should be controlled by him. . . .

(5) The Joint Chiefs of Staff should not "operate" or "command" except in time of war and then "by direction." Unified commands should be established by the Secretary of Defense, with the advice of the Service Secretaries and the Joint Chiefs of Staff, and should be assigned to a Military Department as the Secretary of Defense's agent, if necessary, and not to a member of the Joint Chiefs of Staff in his other capacity as the Chief of a Service. Flexibility is required in this field in order to deal with different situations as they may exist. The Act currently makes possible the violation of the principle of civilian control by leaving it confused as to whether, in the case of unified commands, the theater commander reports to the Joint Chiefs of Staff or the Secretary of Defense. In my opinion, the Secretary of Defense . . . should, in effect, be the Deputy of the Commander in Chief and, therefore, any unified command should be established by him, report as directed by him and, similarly, receive orders by his direction.

(6) The Chairman of the Joint Chiefs of Staff should be given a "vote." While the "voting" procedure is not

normally used, the Act denies the Chairman a "vote." It is perfectly obvious that he will have, or should have, some opinion on the matters which come before the JCS for discussion and it is unrealistic to assume that the Secretary of Defense will not ask his opinion or that he will not give it. . . . He should not, however, be given the power of decision, which must remain in the President and the Secretary of Defense if civilian control is to be maintained. But the Chairman must be a participant in the discussions, looking toward unanimity of opinion on a course of action, or failing to get unanimity, he must identify the differences of opinion and submit the various points of view, together with his own, to the Secretary of Defense for decision.

Alternate II

AN alternative approach which might provide a solution would require a series of evolutionary steps and the adoption of a system, all the implications of which I have not adequately thought out. It would involve a change in the make-up of the Joint Chiefs of Staff by having its membership consist of senior officers who have served as Chief of Staff of one of the three Services and who immediately upon completion of such duty becomes a member of a Combined Staff. The divisions of this staff would consist of functional staffs of professional military officers in the fields of strategic planning, logistic planning, military requirements and overall military policies. This group of officers would have a separate promotion system and would be accountable only to the Combined Staff, the Secretary of Defense and the President. There would be no single Chief of Staff and the Chairmanship might rotate. . . .

The establishment of any unified staff along the above lines would require the development of a system to provide properly trained personnel. This process would take several years to develop and perfect, since it would seem to require additional specializations in certain scientific, technical and industrial fields. . . . I conclude, therefore, that the more moderate reorganization in Alternate I is preferable at this time.

MUNITIONS BOARD

THIS Statutory Board, with built-in rigidity under the existing Act, will not, in my opinion, be able to perform adequately in time of war the various

functions presently assigned to it by statute. There are three principal inadequacies in its organization.

First, the membership of the Board, prescribed by law, compels three of the four members to sit as judges on their own requests and to pass on estimates of production, on schedules and on procurement and distributing systems for which they are each responsible in a separately administered Service.

I believe that real flexibility in the make-up of the Board is needed and the selection of the Board should be left to the Secretary of Defense in order to permit the inclusion of a number of men of broad industrial, engineering, scientific and general business background. . . .

Secondly, the military advisers of the Board and the military members of the Board's combined military and civilian staff can be subjected to pressure by their branch of the Service because of the control of fitness reports and promotions by their Services. . . . This problem and its cure is about the same as in the Joint Staff.

Thirdly, the duties assigned to the Munitions Board by the Act are confused by the apparent emphasis on the

planning aspects of procurement, production and distribution problems associated with industrial mobilization, thereby permitting technical challenges of the validity of its decisions by doctrinaire proponents of "separate administration." . . .

The suggestion has been made that . . . the Munitions Board be abolished and that its functions be transferred to the Secretary of Defense [who would] establish a Munitions Advisory Board. . . . Under this approach to the problem, the Chairman of the Munitions Board should be replaced by an additional Assistant Secretary of Defense.

THE ARMED SERVICES

THE organizations of the Army, Navy and Air Force are all different. The responsibilities and authorities of the Chiefs of Staff of the three Services differ. Their present organization follows a pre-unification pattern and some parts are fixed by law while others are not.

It would be well, I think, to have a thoroughgoing functional and organizational study of the three Military De-

partments, now that they are part of the Department of Defense, to determine the good and bad points in the organization and to take common advantage of the best features of each Service.

As an indication of one area in which modernization and improvement appears to be needed, consider the . . . seven technical services in the Army—Corps of Engineers, Signal Corps, Quartermaster Corps, Medical Corps, Chemical Corps, Transportation Corps and Ordnance Corps . . . all are in one degree or another in the business of design, procurement, production, supply, distribution, warehousing and issue. . . .

It has always amazed me that the system worked at all and the fact that it works rather well is a tribute to the in-born capacity of teamwork in the average American.

* * *

A reorganization of the technical services would be no more painful than backing into a buzz saw, but I believe that it is long overdue. I have a memorandum outlining one method of reorganization which looks promising. The study is recent and was completed in September 1952.



WEAPONS AND MEN FOR THE FUTURE

From the Semiannual Report of Secretary of the Army Frank Pace, Jr.

ARMED research and development has been geared to producing the swiftest moving, hardest hitting battle team in our history: in short, an Army possessing the most effective firepower and mobility possible. We already have recoilless rifles, non-metallic mines, the Skysweeper antiaircraft gun, the utility and transport helicopters, and a heavy artillery gun capable of firing both conventional and atomic projectiles. . . .

The Army is devoting top priority to all aspects of atomic warfare. It is consequently pushing ahead vigorously

with the development of its own methods of delivery of atomic fire power, at the same time that it is supporting complementary delivery methods of the other two Services. In the surface-to-surface field, the Army is developing a family of missiles which are designed to carry high explosive or atomic warheads well beyond the ranges of existing artillery weapons, even under the most adverse weather conditions. Our knowledge of the effects of atomic weapons on personnel and equipment has been considerably increased through participation in

development tests conducted by the Atomic Energy Commission.

However, even with the amazing developments of science, there is no reason to believe that warfare in the future would not require many of our current conventional weapons. Push-button warfare that would eliminate the man on the ground exists only in the realm of science-fiction—and I emphasize the word "fiction." Therefore, while preparing the weapons of tomorrow, we have continued to improve the weapons of today.

A new improved medium gun tank (the M47) has been tested and accepted as an interim weapon. With its more powerful 90mm gun and an improved fire-control system, it can score a hit on the first round of an engagement more often than any other known tank. A completely new medium tank, the Patton 48, that will eventually replace the M47, is going into production. Improvements include a cast armored hull with sharply angled slopes to lessen the effect of enemy shells.

Research has uncovered principles permitting the development of new techniques against enemy armor. New ammunition of radical design can be used in many weapons presently in the hands of troops to counter any tank which can be expected to be placed in the field.

THE Operations Research Office [Johns Hopkins University] has undertaken many important studies in the field of operations analysis. These studies have covered a wide range of problem areas, such as psychological warfare, atomic energy, guided missiles, armor, battlefield illumination, close air support, intelligence, logistics, and cost and relative effectiveness of various Army weapons. To insure that its studies have a practical battlefield application, 40 percent of the permanent staff of ORO and 110 scientists under contract to it have now served in Korea. The Operations Research Office studies have provided the Army with candid self-criticism which has led to corrective action and improvement in complex areas of Army operations.

Research in the field of human resources is a serious undertaking in the Army. More than the other Services, our success depends on the performance of the human being—how well our soldiers do their dirty, tough, and vital job on the battlefield and how well others back them up. When one considers the long lead time involved in producing capable noncommissioned and commissioned officers—the backbone of our Army—it is apparent the Army has a great investment in its personnel; we must make every effort to get maximum benefit from each individual's talents and energies. We know that a comparatively small investment in this highly important field of "human engineering" will produce real dividends.

Our newly established Human Resources Research Office [George Washington University] aims its studies at developing improved personnel selection and classification, leadership, morale,

and training methods and techniques.

OUR Research and Development Program also has been instrumental in bringing about a continuing improvement in the innumerable military items, aside from weapons, which are essential to the combat efficiency of our forces. A large number of the items of communications and electronic equipment placed in procurement in the fiscal year were of new design since World War II, including a new walkie-talkie radio set, a new handie-talkie set, a new series of front-line vehicular radio sets, a new portable teletypewriter, a new portable switchboard, a new mortar locator, and a miniaturized radar beacon for rockets. A milestone in communications progress has been achieved with the development of an experimental radio-teletypewriter converter using transistors instead of vacuum tubes.

Significant progress has been made in improved infrared equipment for combat application, development of gas generating equipment for field production of guided missile propellants, improved mine detecting and mine clearing equipment, and alternate designs of equipment to reduce the use of critical materials, especially in the field of fixed bridging. New developments have been applied to facilitate amphibious operations.

In the field of transportation, numerous important projects were carried forward during the year. A typical project which was brought to the production stage is the 60-ton special purpose barge.

Combat operations in Korea have demonstrated that helicopters provide a considerable advance in the mobility for support of land forces. They have saved many lives. Cargo types are being procured and programs to effect their improvement are under way.

Largely due to the medical research and development program, the death rate from combat wounds has decreased about 50 percent since World War II. A combination of constant evaluation of new techniques, drugs, and equipment as applied to field medicine and their integration into an over-all plan of evacuation and treatment is responsible for this record. . . .

ALTHOUGH the Army's program of harnessing atomic energy has been directed primarily toward warhead application with emphasis upon expanding the Army's family of atomic weapons, increased recognition has been given to atomic applications in nonweapon fields of interest to the Army. In recognition

of the great potential developments in these fields the Army, in close collaboration with the Atomic Energy Commission, has taken steps to initiate, study, and develop military characteristics.

Without placing a limitation on the potential benefits in these areas of research and development, the Army has identified in general terms the following fields where it has a compelling and legitimate interest:

► Static power plants, particularly in isolated areas where conventional power is not applicable but where the Army may have to operate. An atomic generator at such installations could possibly compete with and outstrip the more cumbersome and time-consuming installations of conventional power generating equipment. It is conceivable that such static-type generators might be designed with mobile platforms. If this design proved feasible the Army might accomplish a great gain in the reduction of bulk fuel requirements transported over long supply lines.

► Allied with this power plant development might be the field of light metals development. Such metals are presently obtainable only at prohibitively high unit prices. If they were found to be subject to electric furnace and similar treatment, low cost-high power sources would seem to offer promise of advancing the production of such metals in commercial quantities. If production of light, tough metals with high heat resistance characteristics could be brought about, they would have great military use. This would be particularly true if these metals were to be available for the production of weapons, ammunition, combat vehicles, technical transport, and the like.

► The marriage of light metals to atomic energy may offer a further range of applications, as yet untapped, in the use of such energy as a mobile power source. The weight resulting from the use of conventional metals for the fabrication of reactors tends to make application as a mobile power source somewhat impractical. This impracticality is particularly demonstrated when the shielding requirements entail the use of dense metals. While mobile power applications immediately suggest the field of heavy land transport, other applications will not be overlooked in the prospective Army exploration of this field.

Although the Army for many years has participated in the research of the bio-physical aspects of atomic energy, this nonweapon research will be extended as a part of this program of greater emphasis.



CANDY'S DANDY, BUT

Likker's Quicker

**Lieutenant Colonel
George B. Pickett, Jr.**

IN matters of war as well as of the heart, there are several ways of accomplishing the mission, but one particular way is usually the surest and quickest, though of course in affairs of love there is more often a second chance. Usually the first side to use new ideas and techniques that are valid stays at least one victory ahead.

More and more books and manuals come out to guide our combat leaders. The early days in Korea found many a rule in the "new book" regularly broken—but by necessity. Units were thrown quickly into the line without satisfactory combined arms training, and as the war went on it was plain that the small-unit tactics taught at Knox and Benning were sound. But rifle company commanders did find themselves defending extremely wide (try 7,000 yards for size) fronts. There was nothing then in anybody's book on how to do that.

What's in the book is right but a lot of things just aren't in the book.

But look closer at Korea. What have we learned tactically there that hadn't already been learned in World War II? It's true that a lot of us got quite a bit of retrograde movement experience—second only to the experience of the Union Army after Bull Run. But the overall small-unit tactics were basically the same as World War II, especially in Italy. The scale of armored operations has been small, but the results obtained with the armor units we had then have

Slip up on the enemy's blind side and smack him and you are using the "indirect approach." It takes deceit and fast movement and armor is the weapon.

LIEUTENANT COLONEL GEORGE B. PICKETT, JR., Armor, served in the 11th and 16th Armored Divisions during the Second World War and also served with armor in Korea. He is a 1941 graduate of the Military Academy and was originally commissioned in the Infantry.

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been large. Don't fall into the mistaken group that have "learned" that "Korea has shown tanks are out." Our tanks in Korea operated against the enemy in the face of every known obstacle of terrain, weather, lack of logistical support, parts shortages, and lack of prior training. Yet the record shows that in all large-scale successes tanks participated. And often they made the difference between victory and defeat.

Let no one forget how Company A, 72d Tank Battalion, fought against fantastic odds at Kapyong in April 1951, enabling three UK battalions to plug a division-size hole. This same 72d Tank Battalion had stopped North Korean armor cold on 6 September 1950 on the Nakdong. The arrival of our armored units helped tremendously in sounding the death knell for the North Korea People's Army in South Korea.

THE fighting in Korea has gone through several tactical stages. The defensive phase of delaying action and defense of the Pusan Perimeter was followed by the breakout at Taegu and Chinju and the "Patton-type" advances almost to the Yalu—only to be followed by the Chinese intervention and the withdrawal to south of the 38th parallel. It was this second phase—the blitz from the Pusan Perimeter to the Chongchon River in North Korea—that destroyed the NK army by "indirect approach."

The indirect approach is not new but has been advocated for many years by Liddell Hart and others. The indirect approach, applied to war, involves striking a hard blow at the enemy in an area or location where he can not afford to absorb it, avoiding a major battle with the enemy's forces. This may sound hard but General MacArthur understood it when, in World War II, he bypassed heavily garrisoned islands to strike at islands closer to the main Japanese bases, leaving the by-passed garrisons to "wither on the vine." The indirect approach was the stock in trade of every armored task force commander in Europe in World War II—if he commanded under the late General George S. Patton. In those days there were many references to "Indian country" left behind us, and "roads and shoulders cleared of mines and Krauts." While the expression "indirect approach" meant little to most of us at the time, the principle of destroying an enemy by hitting into his rear and destroying his communications and supplies, blocking the movement of his reserves, and isolating his forces—the majority of whom were still intact—from their support was un-

derstood and exploited by most all of us.

One of the major controversies among the defeated German generals trying to explain their defeat in Russia was a conflict over the theory of the direct approach of destroying the enemy's armed forces by pitched battles as against the theory of indirect approach. Using the direct approach, the Germans destroyed hundred of thousands of Russians and captured vast expanses of territory. But their "wedge and trap" tactics failed to obtain a decisive result and wasted precious time, enabling the Red Army to rebuild a force to defend Moscow and enlist the aid of an ally—General Winter.

THE German "armored" generals, who termed the believers of the "direct" approach "infantry" generals, believed that a quick breakthrough, followed by an all-out armored drive to seize Moscow, would have ended the Russian campaign long before the first snow of 1941. This belief, based on prior German victories, was that the by-passed Russian forces would have been incapable of sustained action and could have been contained by German and Axis infantry while armor made a decisive stroke at Moscow and overran Soviet communications. Since this wasn't tried, no one can say whether it would have worked, but it did work every time the Germans actually tried it. Think of what a rugged season they gave the Allies with only 600 tanks in the Ardennes in December 1944. This "indirect" approach eventually failed because they lacked air power and logistical support.

The "indirect approach" is not a cure-all, to be sure. There can be no stock solution to tactical problems. There will continue to be situations at various levels where the only solution is to destroy the enemy. There was no "indirect" method of halting the CCF in Korea in November-January 1950-51. The "direct" approach of simply killing Chinese was the only solution. Likewise, a company commander assigned an objective can't take his objective by interdicting the enemy supply line. Moreover, there are many situations where a direct approach must first be made to secure the opportunity for an indirect approach. If there are no open flanks, a penetration must be made through the enemy's battle position to open the route to his rear for the practitioners of the indirect approach.

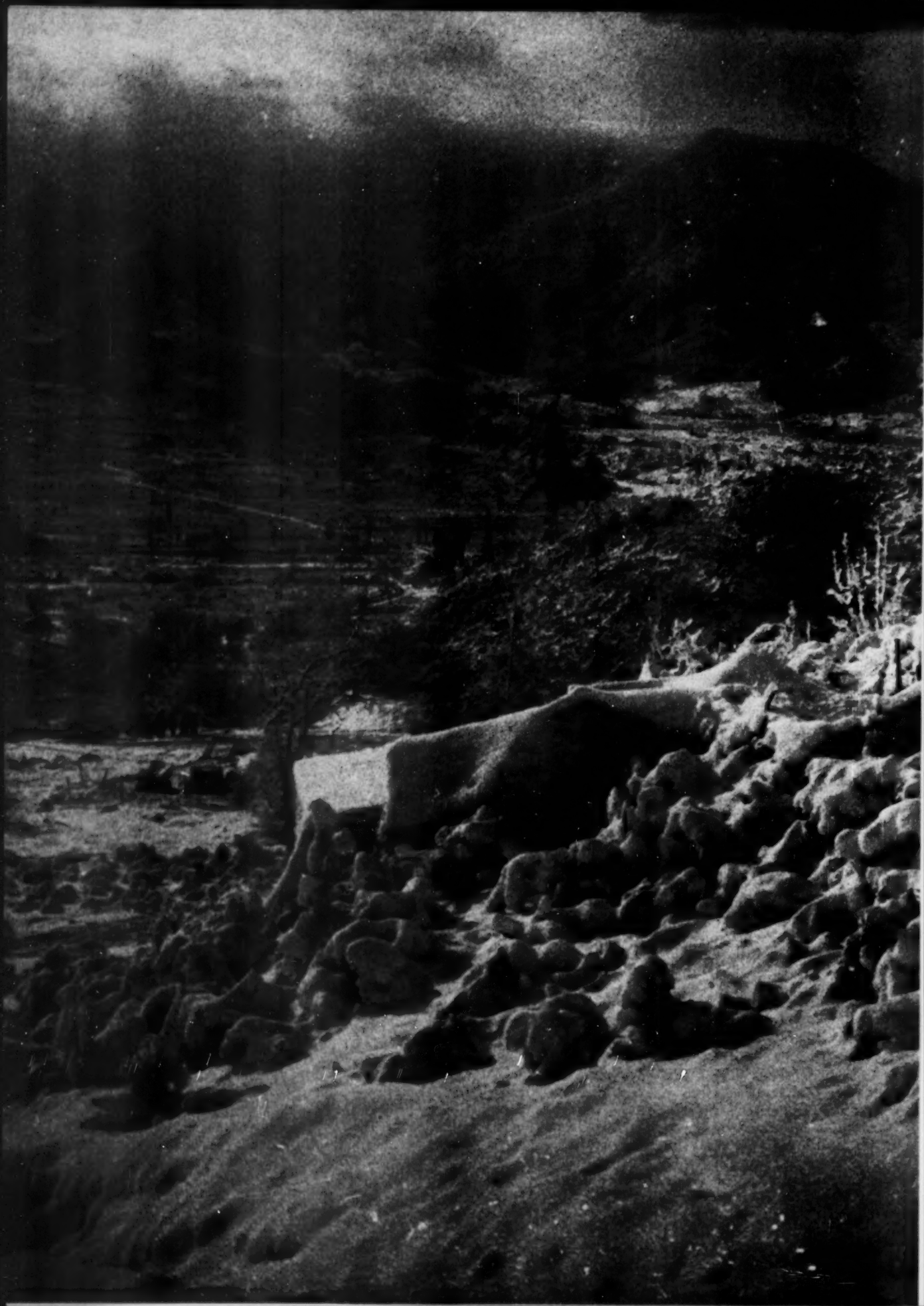
ARMOR is the weapon with which to exploit the indirect approach. Mobility is needed to overrun the enemy's rear

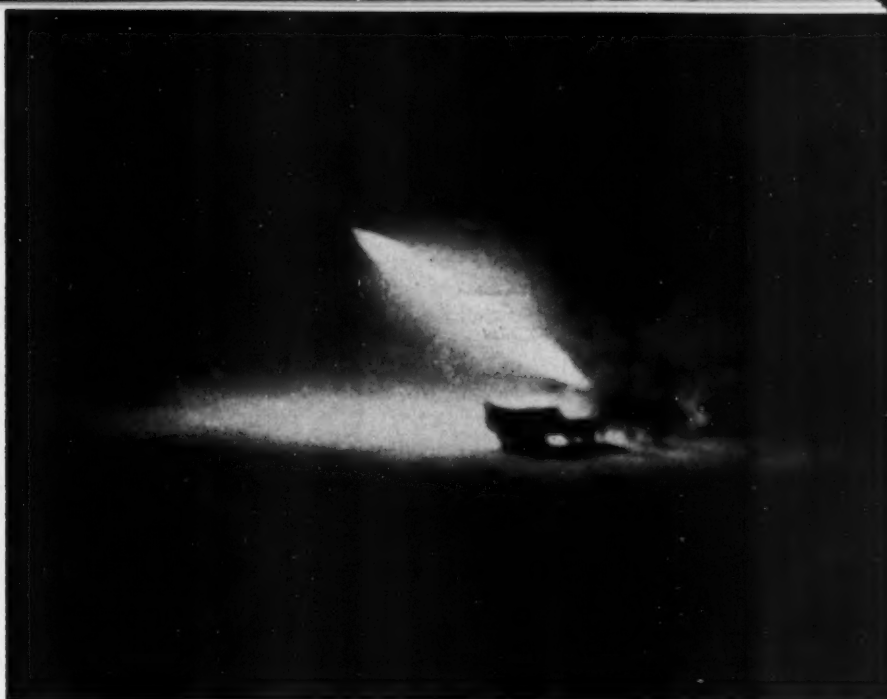
quickly and move fast enough to seize distant objectives before their defense can be organized. Too many of us think of pursuit and exploitation as the same thing. Actually, you pursue a defeated or withdrawing force; but you exploit opportunities to employ the indirect approach.

The indirect approach is obtained by means other than mere selection of a strategic objective and the routes of maneuver to that objective. Crossing the appropriate palm with silver has been and always will be one of the easiest ways to gain a quick advantage. There are always Benedict Arnolds to be found. Potential enemies will try to use subversion, greed, class and social hatreds, corrupt officials, strikes, and numerous other indirect approaches to lessen the effectiveness of our own armed forces. One interesting example occurred in the War Between the States when two Confederate scouts fired into adjacent Union bivouacs simultaneously. The ensuing debacle almost destroyed a Union regiment at a cost to the Confederates of two minie balls.

The Great Captains were all advocates of the indirect approach in some form or other. Napoleon gained a field during one desperate encounter by using a group of buglers to sneak into the enemy rear and sound the charge. He was a master at the turning movement deep in the enemy rear. His defeats and failure started when he began to rely on superiority of numbers in direct combat. Grant almost pounded his army to pieces against Lee's outnumbered and ragged veterans at Cold Harbor before he switched to an indirect approach that tied Lee down to a battle of attrition before Petersburg; one that the Army of Northern Virginia could not afford and eventually destroyed itself "licking the Yankees." Sherman plundered and tore up railroads from Atlanta to Savannah—and had someone else fight Hood's army.

WE need to learn more about the indirect approach in our service schools and elsewhere. Years are spent pounding single envelopment, double envelopment and penetration into the ears of the student. He is taught to be a tactical genius who strives for the opportunity to surround and destroy his opponent. Both approaches—direct and indirect—must be presented to our future generals to make sure that when later their operational plans are developed, they will facilitate final victory and not merely produce a spectacular success of the moment.





↑ A rocket launcher lights up the cold darkness of a Korean night.

← The first snow of the year brings beauty to the war-torn Kumhwa Valley on the Central Front.

KOREA'S WINTER

A Doughboy back from outpost duty fills → up with hot chow.

Smoke but little heat pours from the ↓ generators manned by a Chemical Corps outfit.





Like the peppery shortstop who puts his team in a scrappy mood with his constant chatter, the fighting squad can become an aggressive, confident unit and get more firepower the cheapest possible way if all members—

Talk It Up

Captain James B. Tatum

THE mission of the Army has been stated as the destruction of the enemy in the field. American science and industry have developed weapons for the foot soldier superior to any known enemy's weapons. Our soldiers ought to be made aware of them.

These weapons, properly used both individually and collectively, will give him fire superiority over the enemy.

General S. L. A. Marshall is probably the most stimulating combat factor for a great number of us. His studies and reports on the number of men who actually fire in battle are known throughout the Army. But action to remedy the situation he found is still lacking in many outfits. Here is a possible solution.

Three things are critical in firepower—assuming that the men firing are qualified to shoot their particular weapons. The first two are communication and control. The other is use of the ground.

In bringing up communication and control I'm not concerned with radio or wire at all. What I have in mind is a system of communication and control among soldiers and their leaders right down in the rifle squad. There is no wire, no radio, for the men of such squads when they attack. As things are they have to rely on a sense of feeling, or on observation which is often limited.

There is just one way to get this missing communication and that is to "talk it up." You can walk to the nearest ball park any summer day and see them talking it up in great style. Coaches, managers, players—and not just in baseball

—have realized the great value of keeping their teams in tiptop aggressive shape by using plain, ordinary voice power. Constant chatter from the peppery little shortstop not only bolsters his teammates' morale but also has a marked effect upon himself. And the spirit of the opposition is always somewhat dampened by the noisy, confident foe playing against them.

THIS same process works on the battlefield in much the same way.

Every fighting man—infantry, armor, artillery, engineer, and everybody else who gets into the shooting—gains confidence and aggressiveness from hearing the sound of his own voice.

He gains further confidence from hearing the shouts of the other men in his own squad or section.

The leader gains better control by greater use of his sense of hearing.

The enemy, hearing the confident racket, will feel the sense of fear our own troops have often felt when a yelling, shouting attacker is coming at them.

With this greater aggressive spirit, more men are bound to fire their individual weapons, and crews of crew-served weapons will coordinate much better.

ALL troop leaders in practically every situation must give great consideration to terrain. General Collins rightly stressed this in his recent fine article in this magazine. Every man, and especially every rifleman, must become expert in judging every insignificant dip and hump in the ground as effective cover. The man who hasn't been trained to spot such places automatically, and hit them when he needs them, will be meeting just the same subconscious



thought of self-preservation without knowing what to do. Consequently, his every effort will not be directed toward reaching the objective as he automatically uses the ground. And this will inevitably result in a big loss in total firepower and a general weakening of the over-all drive ahead.

All men in training should undergo problems designed to check their selection of cover in the attack. And this point should be stressed in every tactical phase of training until it becomes instinctive.

One outstanding platoon leader in Korea had excellent results with a system that obtained superior individual use of the ground, as well as communication and control.

By merely instructing his men to move in short rushes and pick cover spots, he set up the basis for imposing his plan of having every man yell "shoot" (and execute his own command) when he jumped up and moved forward—and yelling "cover" as he dropped into a position of cover. This plan was carried out to perfection and it resulted in the successful taking of every objective. This platoon leader was certain that the number of his men who actually fired was high, and his control over his platoon was quite adequate. He took all his objectives with relatively few casualties.

CAPTAIN JAMES B. TATUM, Infantry, is on duty at the Army General School, Fort Riley, Kansas.



Colonel Thomas H. Hayes

A "military corridor" includes the crests of two ridges and the ground between—which suggests that we should all be careful with military terminology

I HAVE read with interest the excellent article in your October issue "Run the Ridges and Win" by Major Gerald P. Averill of the Marine Corps. Despite its many virtues it contains an implied, unjust criticism of doctrine which is misleading.

Major Averill says "Until they learned better, the ground combat forces of the U.S. in Korea had a strong and inflexible tendency to stress *corridors* as the way to enter the main battle position of the enemy. *Ridges* were mentioned in the books as *possible* avenues of approach, but most tacticians treated the subject lightly, or ignored it completely."

I feel it is necessary to call attention

to the fact that in military terminology a corridor is *not* a valley as suggested; but rather includes the crests of two ridges and the ground between. Even the non-technical meaning of corridor should have alerted the author for it is generally recognized as a passageway with protecting sides. Our doctrine says that to attack the enemy main battle position (penetration) the most favorable terrain feature is a corridor running toward the objective. This in essence says "Run two Ridges and Win."

Therefore the alleged disastrous "tendency to stress corridors" indicates a possible misinterpretation of doctrine within the ground combat forces.

The proper use of a corridor in the attack of an organized position is illustrated as follows. A commander, for example, a division commander, is as-

signed an objective. The enemy dispositions (or his information of them) are such that he cannot find a flank to envelop. Forced to penetrate, he studies all the pertinent factors, particularly the terrain. Let us say he picks a stretch of low ground leading toward his objective, which indicates to him a weakness (at least a terrain weakness) in the enemy defenses.

At this point he might grab the proverbial broad pencil and draw an arrow through this low ground toward his objective. Perhaps some staff officer (the type who writes plans but has never witnessed their execution) would picture this arrow as representing a Balaclava-like charge up a river valley. However, to our division commander who knows his doctrine the arrow represents the "center of gravity" of an attack within the corridor. He anticipates that:

Battalions of his assault regiment(s) will seize initial and successive objectives on the two ridges which form the corridor, thereby removing observed fire from the low ground between. (This, on a larger scale, is what the platoons of Fox Company did on the "U" in Major Averill's article.)

Reserve battalions and regiment(s), artillery, command and logistical installations will displace forward in the protected valley, facilitating the continued advance of the division. (Just like Easy Company marched up the draw.)

Were no corridor available to our commander, another "possibility mentioned in the book" would be a single ridge line leading generally toward the objective. On this ridge concealment rather than cover would have to provide the protection from enemy fire for displacing troops and installations. Obviously then for a zone of attack a single ridge (though preferable to cross compartments) is less desirable than the crests, interior slopes, and valley which constitute a corridor.

IF the misconception of what a corridor is detracts from otherwise sound tactics, it must be corrected. Aside from the "broad arrow concept" previously mentioned, there is another possible source of misinterpretation. It is the small-unit leader's almost unconscious confusion of technique with tactical principles. He reasons thus: "to attack the enemy position I take my platoon by the most concealed and protected route to my objective. The best concealment is frequently in the vegetation along a stream. In such cases I attack up a draw; therefore, my division commander must

COLONEL THOMAS H. HAYES, Infantry, is on duty in the Far East Command.

attack up a valley." He doesn't realize that it is his platoon and many like it fighting up the draws (or hedgerows, or rocky noses, or alleys) which take the essential high ground. They are the division commander's attack. They take the ridges that make the valley safe for the use of those elements of the division which are not attacking but whose freedom of movement and operation is necessary to a continuation of the attack.

An understanding of what a corridor is and how to use it is basic to any leader of ground combat units. If a word confuses rather than helps, it should be modified or explained to insure clarity.

In military writing, words should be avoided which require exactitude in definition or have highly specialized meanings.

In service schools, words should be used in close conjunction with the ideas they represent, e.g., "Corridor A-B" is less descriptive than "Ridge A-Ridge B Corridor."

In the COMBAT FORCES JOURNAL, if a contributor comes up with a faulty premise, edit it, or caution the reader by a footnote, as in this case SR 320-5-1 definitions of "corridor," and "compartment of terrain."

ACTUALLY the error which Major Averill exposed was not failure properly to employ a corridor in penetrating an enemy battle position. It was failure properly to protect flanks in a movement against deceptively light opposition. In a movement to contact, or a pursuit, obviously the commander pushes his forces forward rapidly along the most trafficable routes which are usually in the valleys. It is basic that in so doing he runs a grave risk if he does not simultaneously provide flank security on the adjacent high ground.

Criticism of doctrine is essential to a progressive, effective army. However, slanted misquotations undermine and confuse sound military thought. Our schools try to reveal the tactical principles to the student, but after all, experience is the best teacher. Usually when the individual lesson is finally learned in combat, the "discovery" carries a subconscious thought: "Seems like I heard that somewhere before!"

This started out to be a mild letter of reproach to the COMBAT FORCES JOURNAL for allowing a minor distortion to mar an otherwise valuable article. It has developed into a treatise. I hope it has value.

I am also mailing copies of this to Major Averill and the Tactical Department of The Infantry School.

MEET THE FA OBSERVATION

Major H. P. Rand

EVERYBODY knows about the shooting artillery. The doughboys, tankers, engineers—they all know the fire support that artillery battalions can give them. But few, even among artillerymen, know just what the Field Artillery Observation Battalion is, what it really does, and what effect its missions have on the artillery units of the corps.

An observation battalion commander returned from Korea remarked, "The division artillery and corps artillery S3s were not familiar with the capabilities of my battalion."

An excellent pictorial record of observation activities in Korea is available in Staff Film Report No. 174, released in December 1951. Official reports, personal interviews, and other first-hand sources provide pertinent information on activities of observation units in the Korean War. The following remarks throw light on some of these activities:

"As many as 117 sound locations and 322 flash locations were reported by elements of one observation battalion during one month. Flash registered and adjusted friendly artillery . . . Flash OPs were usually located by triangulation . . . Personnel of the flash topographic section were used as relief personnel for the operations section and also up on the OPs . . . We did get some after-action inspections for accuracy of our locations and it generally proved out the locations were all right . . . Sound and flash locations were habitually tied in to firing battalions.

"The radar antenna and generator were a guide for infiltrators [because of noise] . . . Radar should definitely be on the observation battalion T/O&E. It would be a tremendous asset to the battalion, both for counterbattery and countermortar work.

"The frequency of meteorological electronic release was upped from three to six per day . . . We supplemented the electronic messages with visual messages when we could.

"Headquarters battery was working up and getting survey control along the whole front to the divisions . . . Sun shots were used most of the time. We used the existing trig points when we could verify them . . . The SIC was near corps artillery headquarters . . . I did a reconnaissance in thirty minutes

by helicopter that would otherwise have taken me an entire day.

"We found out what the divisions' problems were and tried to be one step ahead of them so we could offer suggestions as to what we could do. Otherwise they will certainly give you orders and they might not be what you are best fitted to do . . . I think one observation battalion per corps is a good compromise. A battalion can cover very well the present corps front (in Korea), leaving a few gaps in the least likely spots perhaps."

In combat, we can get our money's worth out of the observation battalion only if all soldiers know what its mission is and what it can do.

There is one observation battalion organic to each corps artillery. Except for the headquarters and headquarters battery of corps artillery, it is the only unit habitually assigned to the corps artillery. All other units, such as the many artillery battalions of different calibers, both FA and AA, are normally attached only to the corps, and are subject to transfer at any time.

These battalions have a headquarters and headquarters battery, three observation batteries, and a medical detachment.

Their missions are to pinpoint the enemy's artillery, register and adjust our own, collect and put out combat information, calibrate our own artillery, coordinate artillery survey within the corps, and furnish our own units with meteorological data.

Locating the enemy's artillery is by far the most important mission from the corps point of view, for in combat, this knowledge is of great importance to the corps commander. Particularly when he plans an attack, neutralization of the enemy's guns is essential. Then a "silent" counterbattery policy is often ordered. Hostile positions are accurately located, but are not fired upon until just before the attack. And then the corps artillery goes to work on its counterparts across the line located largely by the observation battalion.

The observation battalion locates the enemy's guns by sound, flash, and radar ranging. At the present stage of development, radar ranging is quite limited in locating flat-trajectory weapons, but

CON BATTALION

it is most reliable and accurate in locating mortars and other high-trajectory weapons. Sound and flash are excellent means for locating any type of weapon, including high-velocity, flat-trajectory guns.

Sound Ranging

LOCATION by sound ranging is done by finding the ground position of whatever makes the sound. The time the sound waves arrive is precisely determined by electronic equipment at accurately surveyed stations. The microphones there have filters which prevent high-frequency sounds, such as rifle and machine-gun fire, from reaching the microphone. And to shield the microphones from the effects of wind and other terrestrial disturbances, they are suspended within canvas covers hanging below the level of the ground.

As the sound waves strike the microphone, electrical impulses are sent by wire to the sound central where the waves are recorded. The time the sound arrived at each individual microphone is carefully figured. By measuring and plotting on the sound chart the time intervals between several microphone stations, the point of origin of the sound

waves is found. Accuracy depends upon the size of the "polygon of error" of the interdicting rays. The coordinates thus figured are sent to the next higher echelon with a statement whether the accuracy of the location is within 50, 100, or still more yards. This helps in evaluating the information along with other location reports from photo interpretation teams, light observation airplanes, terrestrial observers, and shell reports. An accurate set of coordinates can be determined when several location reports pointing to the same weapon, have come in to the corps artillery counter-battery section.

Normally four to six microphones are installed to form the sound base. These are spaced at intervals of 700 to 2,000 or more yards, depending on the terrain. No personnel are required to man the microphone stations once they sound central. One man is required at the sound outpost. He presses a button to activate all the sound equipment as soon as he hears the noise of a hostile weapon. There may be more than one outpost for a base, depending on the width of the front that has to be covered.

A minimum crew of six men is needed to operate the sound central. All locations obtained there are immediately reported to the observation battery CP where they are evaluated and sent to the battalion CP, and thence to corps artillery.

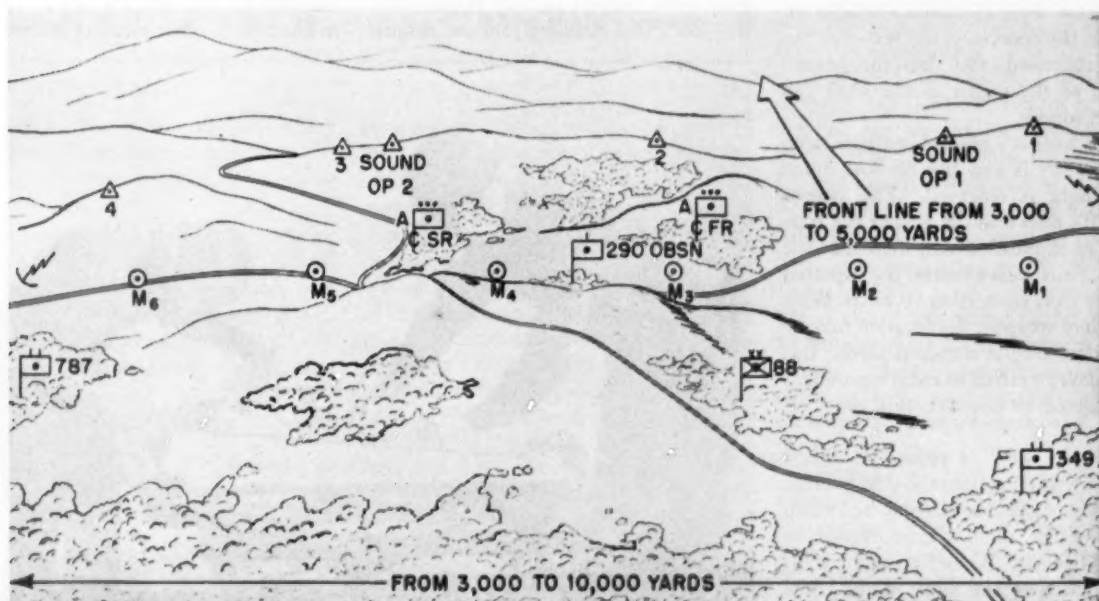
During the last war many sound microphones were dug up with great care and trepidation by friendly troops who

thought they were mines. The way they are buried in the ground can easily fool anyone into thus mistaking them. But by marking microphones with an identifying tag this can be avoided.

The sound equipment of an observation battery can perform adjustment and registration of our own artillery. Strong winds, very bad terrain where it is hard to emplace microphones, heavy artillery fire by the enemy that clutters up the sound recordings with several sounds at the same time, and extremely long ranges to sources of sounds weakening the sound and distorting the wave beyond correctible limits—these things all limit to some extent the operation of sound equipment. The maximum distance at which artillery was located by sound in World War II was about 33,000 yards. The normal maximum effective range runs about 20,000 yards.

Flash Ranging

FLASH ranging operates by sight observation of the flash of a weapon as it fires. This is done from several observation posts. Usually, two to four OPs are set up, with the larger number most desirable. OPs must be surveyed accurately. On each of them an operator mans instruments and searches the target area. As soon as he sees a flash he takes horizontal and vertical readings to it and reports the data to the flash ranging central. There observations made on the same flash from several OPs are graphically plotted in much the same manner as in sound ranging. Again the polygon



The CP of an observation battery in support of a division artillery is easily accessible to the division artillery and the platoon command posts. The sound outposts are located on high ground, well to the front. The six microphones are strung along the entire front. The two radar sets are emplaced well to the flank to obtain side view of the hostile projectiles; they are indicated by lightning bolt symbols.

of error determines how accurately the gun has been spotted.

Flash ranging can do registration of our own artillery either by center-of-impact or high-burst methods. It can adjust fire and do comparative calibration. Flash ranging is the most important primary means the observation battalion has for furnishing general battlefield information, because its observation instruments are located well up front and on high ground. Poor visibility limits flash operations; flat terrain or jungle where OPs are simply not to be found completely frustrates them.

The best accuracy possible in observing a single flash is about five meters. When a whole enemy battery fires, the location error may run as high as 100 meters.

Radar Ranging

RADAR ranging locates weapons by observing projectiles electronically during their flight. The radar set sends out a pulse of radio energy in the direction of the sector the radar is directed to search. When any projectile passes through this beam of energy, part of the energy "bounces" off the projectile back toward the radar set. There this weak signal is amplified greatly and thus made visible on various scopes.

But the radar can do more than just "see" the projectile. It can be made to follow the shell automatically during its flight. An automatic plotter graphically records the data determined by the radar set—range, height, and azimuth (direction) from the radar set to the projectile. With these three elements available for a part of the trajectory, the rest of it can be reconstructed, and thus the ground location of the origin of the shell can be determined.

Radar accuracy depends on how steep the trajectory is and also on how much of its flight is observed. The steeper the shell's path and the greater the fraction of its flight observed, the better the results. Thus with a mortar the expected accuracy runs from 30 to 50 yards. With an artillery weapon, the location may be in error by several hundred yards. But future developments in radar equipment are expected to improve this considerably.

The best "view" a radar can obtain of a hostile shell is from the side because from this angle the largest reflecting surface of the shell is encountered by the radio pulses. Therefore sets are often emplaced to the flank of the corps zone they are covering. The terrain should also be ground with a slight crest to the front to prevent echoes from ter-

rain features from obscuring the scopes on the radar set. But a crest that is too high will block the electronic line of sight from the radar set to the projectile in flight.

Radar functions without difficulty in darkness, fog, and light rain; but snow, sleet and heavy rain puts it out of business. The excessive size and weight of present equipment and its limited capability of locating artillery make radar less effective in the sound-flash-radar counterbattery team than the other two means. However, radar can't be fooled and both sound and flash ranging can. The enemy can set off charges and use other fuzes to simulate targets. When radar observes an object in flight and the automatic plotter records the information, there is no possibility of mistaking the object for a shell if it is something else. The characteristics of the plot of any projectile trajectory are unmistakable.

Radar can do registration of our own artillery by high-burst method with excellent accuracy. Present equipment reads elevation and azimuth to one mil and range to twenty yards, so radar can do long-range registrations particularly well.

Radar can adjust friendly artillery on targets previously located by radar. And it can detect movement on the battlefield. To carry this last mission out, the radar set has to be emplaced on an exposed location so that a line of sight to the ground is obtained. This makes the set highly vulnerable, so this mission is usually carried out by night. It was used with great success during World War II. (See *Field Artillery Journal*, August

1946, "Employment of Radar by XV Corps Artillery," by Brigadier General E. S. Ott.)

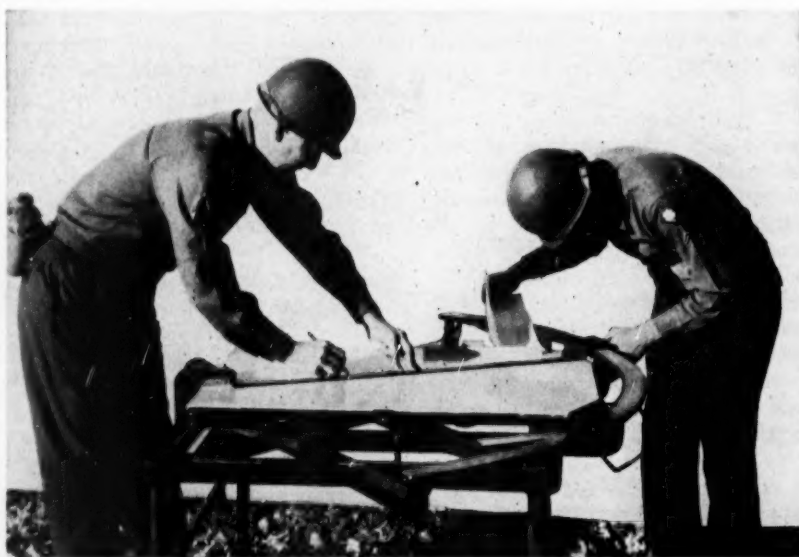
Meteorological Section

THE three agencies for locating weapons so far discussed are found in the lettered batteries. The headquarters battery contains the meteorological (met) section and the topographical platoon.

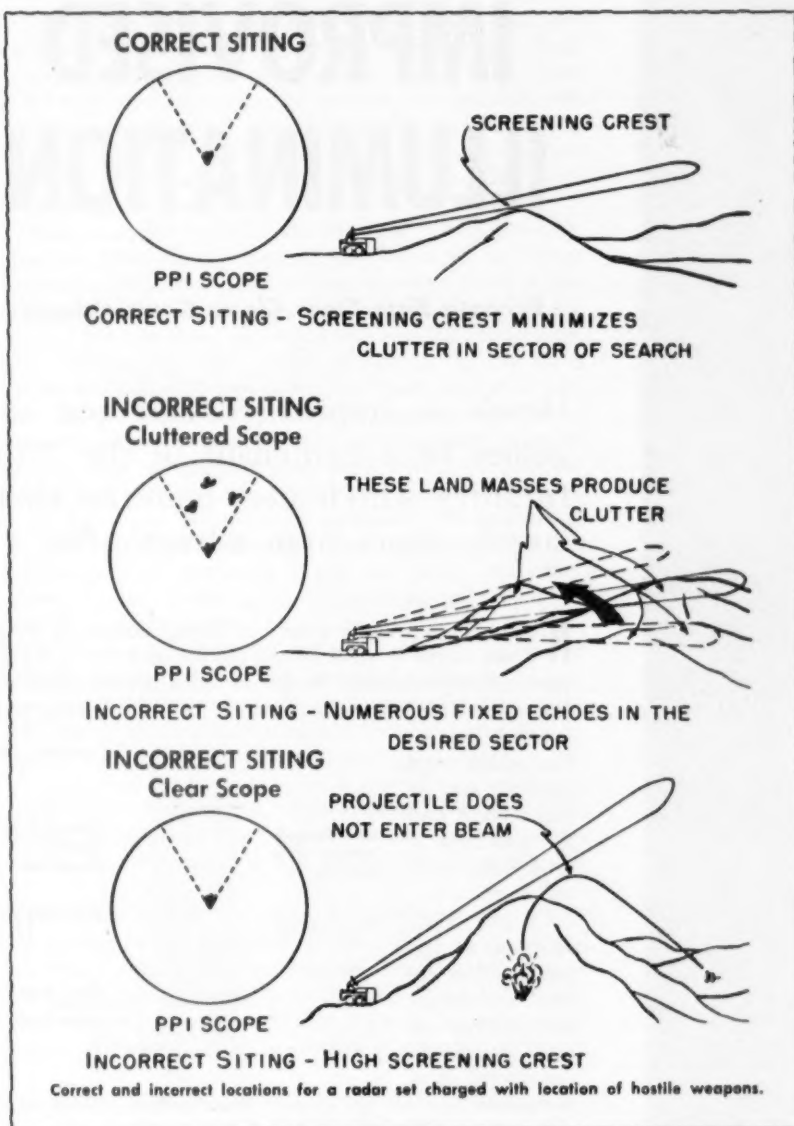
The main job of the met section is to furnish met messages to artillery units and so increase the accuracy of their fires. Weather, and wind in particular, has an obvious effect on the travel of sound waves. Hence another met section mission is to provide weather data to the sound platoons in the observation batteries. There this information is used to apply corrections to the recorded data. This section also exchanges weather information with Air Weather Service units.

The met section does no forecasting; it only determines existing conditions at all altitudes traveled by projectiles. Ballistical information contained in the messages includes wind speed and direction, air temperature, and density.

The met section has an electronic radio direction finder in contrast to the visual met equipment of the division artillery section. In operation, weather data are continuously transmitted by a radiosonde attached to a balloon in flight. The radio direction finder furnishes wind information by measuring azimuth and elevation to the balloon at specific time intervals. It also acts as an antenna for the receptor, which records in chart form other weather information



The flash ranging plotting board is located in the flash central. Information sent in by the observation posts is immediately plotted for a location of the hostile installation.



supplied by the radiosonde. Complex computations are made to transform the electronically received data into a usable metro message.

The messages go at scheduled times to the artillery with the corps. Whenever a special message is needed, any unit can arrange beforehand to get it. Heavy artillery battalions depend on metro messages for their firing accuracy.

Topographical Platoon

THE observation battalion is charged with establishing survey control for all artillery with the corps. The battalion commander himself is designated the corps artillery survey officer. The T/O provides a major as battalion survey officer. The topographical agencies of the battalion collect and disseminate survey

information throughout the corps artillery area and perform survey for the battalion's own sound, flash and radar activities.

This work is done by the survey parties in the topographical platoon of headquarters battery and by the topo sections in the sound and flash platoons of the lettered batteries. There are 16 survey parties in the battalion, 4 in headquarters battery and 4 in each observation battery. The lettered battery parties normally do the necessary work for elements of their own batteries. The four parties in headquarters battery usually accomplish survey for units other than those of the battalion. However, the work can be broken down in any way that will best accomplish the overall survey mission.

Planning for survey operations can

save many hours. The battalion does its surveys by traverse, triangulation, and three- and two-point resection. When no established ground control is available to locate the battalion equipment accurately, surveys are usually started with astronomical observations instead. These are also used to check the progress of a survey party.

The Survey Information Center (SIC), one section of the topo platoon, is usually set up near the corps artillery fire direction center. It acts as the central agency within the area for planning, coordinating, computing and checking survey operations. The SIC serves as the record central and clearing house for survey by all artillery units. Newly arrived units come here to get information that will tie their own surveys into the corps survey, and to turn in their survey data for recording.

Tactical Employment

WHENEVER possible the observation battalion commander keeps centralized control over his unit. The width of the front and the number of divisions and task forces in the corps, as well as their missions, may sometimes make decentralized control necessary. In that case batteries are attached to units subordinate to the corps.

Whether under centralized or decentralized control, the unit displaces by echelons. When the battalion operates as a whole, it moves by battery. When a battery is operating by itself, elements of sound, flash, and radar displace, while other elements continue observation. Batteries are self-sustaining, except that meteorological information comes only from the headquarters battery.

In general, the T/O&Es of the observation battalion and battery have undergone but two major changes since World War II. The first increased the lettered batteries from two to three; the second added the radar platoon in each battery and also the battalion radar officer.

NEW equipment added to the observation battalion since the close of World War II includes a survey beacon, a metascope, miscellaneous new vehicular and communication equipment, and all the items of the radar platoon.

The value of the field artillery observation battalion in assisting the firing artillery units by survey and meteorological data, and by locating hostile artillery is inestimable. Little known as its activities are, lack of such a unit in the corps would now be sorely felt by all combat troops.

IMPROVISED ILLUMINATION

Private First Class Cleve Cunningham

Here's an improvised flare put together by a lieutenant in the 35th Infantry which uses material that largely comes from salvage piles

NIGHT illumination is a must in Korea. Because of steep slopes, shrubby underbrush, ditches and rice paddies, every rifle squad should be able to illuminate the sector in front of it. The enemy, well trained in night fighting and infiltration tactics, makes every possible use of the terrain and the protection it gives from standard flares.

In the 25th Division, an improvised flare has been developed and adopted for wide use. Easily constructed from materials available in every rifle

company, this flare has been used to supplement issue-type and also the indirect and direct searchlight illumination.

Named the Huschflare, after its inventor, Lieutenant Charles E. Husch, formerly of the 35th Infantry Regiment, it can be regulated to burn from one-half to three hours, illuminating a radius of fifty yards. The Huschflare requires a minimum of maintenance—refilling it when necessary—and can be tripped either by pull wires, or by the enemy in the accepted trip wire method.

Why go to all the trouble of making a flare when many varied types of flares are issued? First of all, issue-type flares never seem to be in sufficient supply. Also, in Korea, the issue-type flares prove impractical in many situations. They cast shadows which conceal the enemy on the rugged terrain and often fail to illuminate a specific area.

Materials needed to construct the Huschflare, most of them salvage items, are communication wire, two 81mm shell containers (heavy), with tops; one metal 81mm shell container (light); and two T-6 trip flares.



The Huschflare sends forth a bright clear flame ten feet into the air and lights the area within a radius of fifty feet.

PRIVATE FIRST CLASS CLEVE CUNNINGHAM is a member of the 25th Infantry Division in Korea.

COMBAT FORCES JOURNAL

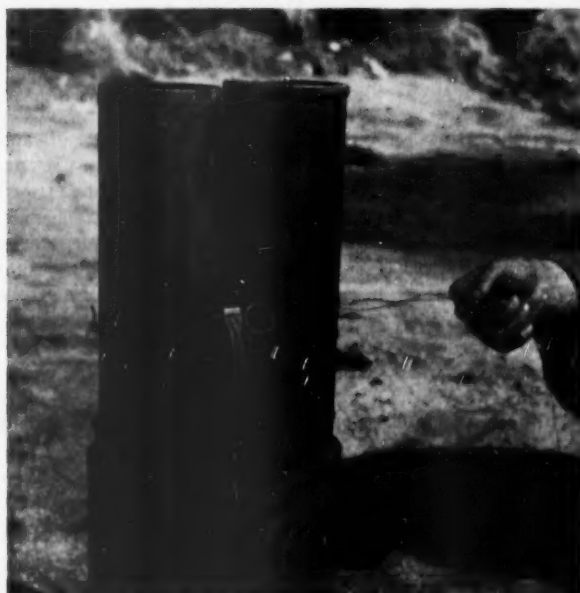
Preparation of these parts for assembly is easy and can be done quickly. Remove the partition from the light shell container and drill several holes in its sides. Since these holes will limit the amount of gasoline the container will hold (*see cut, at right*), the holes should be drilled at a height determined by the length of time you want the flare to burn. You have to experiment to determine the variations in burning time.

Begin assembly by filling the two heavy containers with gasoline. Place the tops and tighten. Then put the heavy containers, with caps down, in the opposite corners of the light shell container. Punch or drill two small holes in the caps of the trip flares' containers and run the communication wire through them. Wire the tops of the trip flares in the two valleys formed by the two heavy containers (*see cut below*). Set T-6 trip flares in tops and wire them securely to heavy containers. The trip flares must be *secure* so the action of tripping them won't free them from the Hushflare. Attach a trip or pull wire, harness fashion, to both flare pins. Fill the light container with gasoline to height of holes drilled in sides. Then punch or drill a hole in the bottoms, now tops, of the two heavy containers. String the wire either to a position or conceal it and the flare is ready for use.

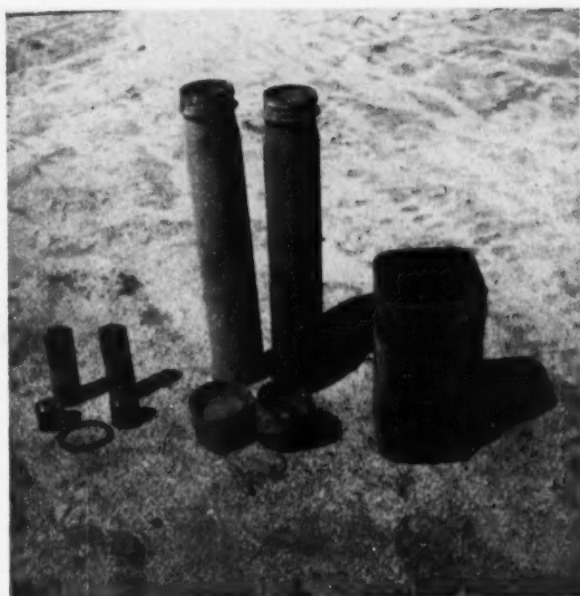
When the T-6 flares are activated, either by pulling or tripping the wire, their flames ignite the gasoline in the light container. As this flame burns, it heats the gasoline in the two heavy containers, creating considerable pressure. The pressure and heat force the gasoline to spout from the holes in the tops of the two containers in vapor form (*see cut, opposite page*). The vapor will ignite immediately. A spouting tongue of flame will shoot eight to ten feet in the air illuminating the area with clear light within a radius of fifty feet.

UNDER certain battle conditions, it isn't too wise to have a sector lit up for too long a time. If it is more practical to have a shorter burning flare, the burning time can be shortened during assembly by partially filling each heavy container with a small log. The log takes up air and fuel space. The logs should be notched at the ends before in-

The Hushflare assembled and ready for use. Note how the trip flare is heavily wired to the 81mm shell containers.



FEBRUARY, 1953



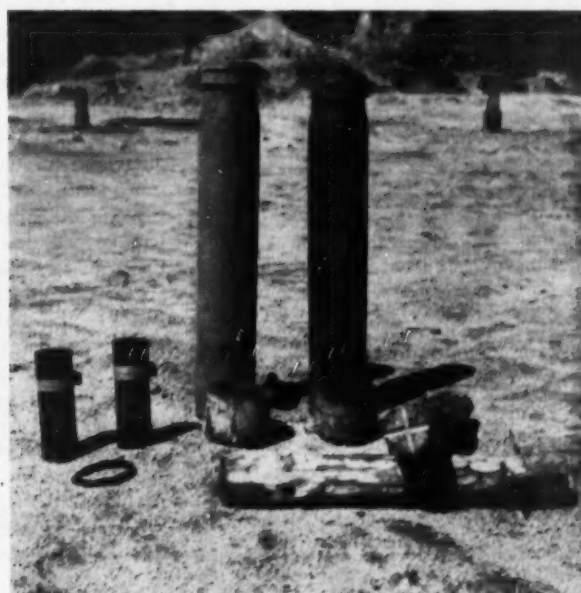
Here's what you need to assemble a Hushflare. From left to right: T-6 trip flares with tops; communication wire; two heavy 81mm shell containers with tops; one light 81mm shell container. Note the holes drilled in the light shell container.

section into the containers to keep them from blocking the holes in the ends of the containers (*see cut, lower right*). Less heat is required to vaporize the gasoline in the heavy containers, therefore less gasoline, and lower placed holes, are needed in the light container.

The job of maintaining the Hushflare is simple. Check the flare twice weekly and replace the gasoline that has evaporated or collected water. Make sure the wires are secure.

The Hushflare is employed by the needs of the tactical situation and the terrain. It is advisable to place it far enough away from friendly lines so it won't be dangerous. Also put where it will silhouette the enemy.

This shows how logs are prepared to shorten the burning time of the Hushflare. The ends of the logs are notched to keep open the holes in the ends of the container.



29



THE BATTLE OF THE BULGE AS A CASE STUDY IN Battlefield Intelligence

Hanson W. Baldwin

INTELLIGENCE deficiencies and an astigmatic concentration upon our own plans with an almost contemptuous indifference for the enemy's, set the stage in December, 1944 for the German successes in the Battle of the Bulge—a case history in the “dos and don'ts” of intelligence.

HANSON W. BALDWIN, Military Editor of *The New York Times*, is, so far as the Editors are aware, the most knowing, thorough and hard-working military commentator engaged in that arduous and dangerous craft. Mr. Baldwin's interest in the Battle of the Bulge goes back to those dark December days of 1944 when it was being waged. An earlier article on one phase of it, “Great Decision,” appeared in the May 1947, *Infantry Journal*. In that article Mr. Baldwin told the story of General J. Lawton Collins's Christmas Eve decision to let Combat Command B of the 2d Armored Division attack, despite the gravity of the situation and the lack of a firm directive from higher headquarters to attack.

The Battle of the Bulge was the last dramatic effort by the Germans to avert defeat in Western Europe. It was, in net result, an unsuccessful effort (which may—or may not—have lengthened the war slightly), but it won dangerous initial successes for the enemy and it cost the United States heavily in casualties and prestige.

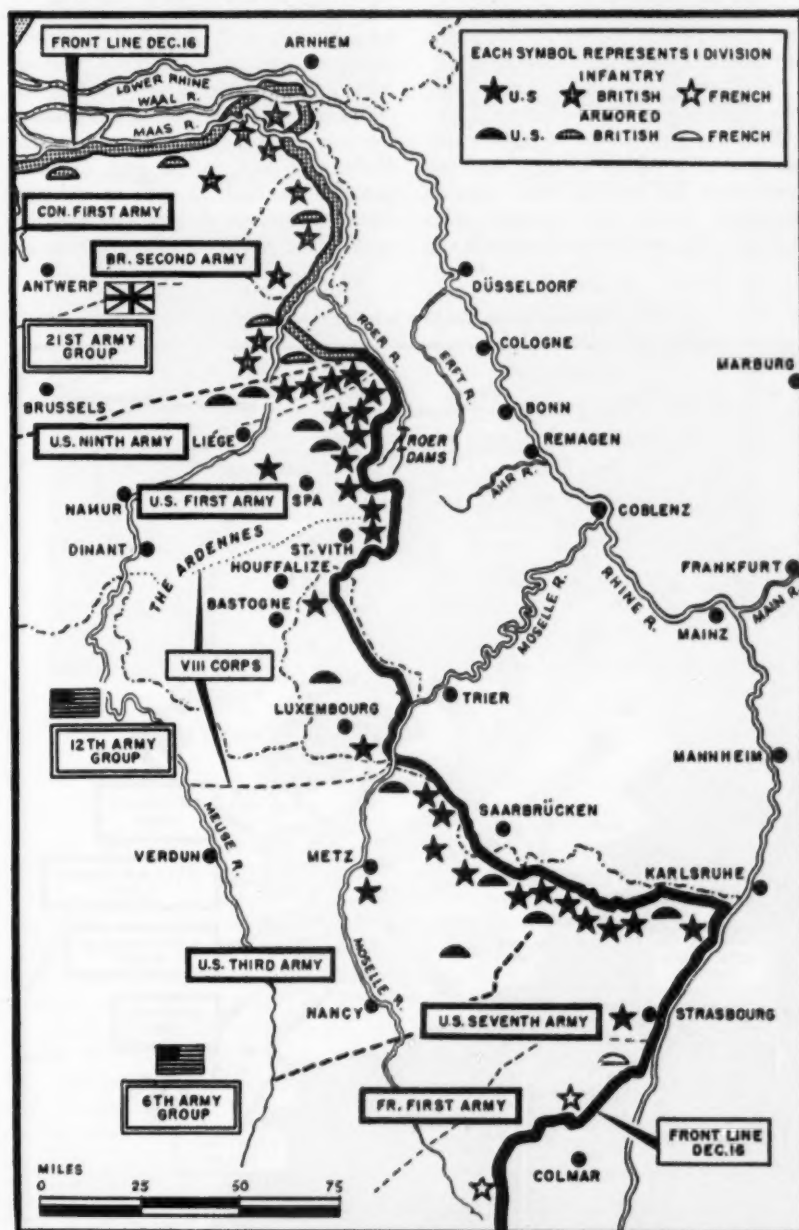
In December, 1944, the thundering surge of the Allied armies across France had bogged down on the frontiers of Germany; the bloody, dogged battle of attrition in Hürtgen Forest—one of the hardest (and most neglected) battles in which Americans have ever fought—and slow, inching progress through the Westwall had succeeded the sweeping advances and heady triumphs of the summer. The high elation of victory had been followed by the reaction of weariness, and the gradual realization that the war was not over; another winter of struggle faced us. But from the Vosges to the sea, along 500 miles of front, al-

most seventy Allied divisions were standing at the portals of a Germany bled white. Devers' 6th Army Group held the eastern flank; Bradley's 12th Army Group—the largest and most powerful of the groups, comprising the Third, First and Ninth American Armies—fought from the Saar to the Roer, and Montgomery's Englishmen and Canadians, with some American units, pressed toward the Rhine in the north.

The U. S. First Army, Lieutenant General Courtney H. Hodges commanding, held about 165 miles of front from Aachen to Luxembourg, with Patton's Third Army on its southern flank and Simpson's Ninth Army to the north. Three corps were in line under Hodges in December, 1944: the VII Corps in the north, pushing toward the Roer; the V in the center, driving toward the dams that controlled the level of the Roer, and the VIII in the south. The VIII Corps was spread thin—deliberately. Four divisions held about eighty-eight

... a shocking deficiency that impeded all constructive planning existed in the field of Intelligence ... The stepchild position of G2 in our General Staff system was emphasized in many ways.—GENERAL EISENHOWER in "Crusade in Europe."

Allied positions in Western Europe on the eve of the German counteroffensive



From *A Soldier's Story*. By General Omar Bradley. Copyright, 1951, Henry Holt & Co., Inc.

miles of front in the quiet Ardennes sector. The bulk of the U. S. strength had been concentrated to the north and south of the Ardennes to support the main efforts then planned, and the Ardennes sector, with its difficult terrain and limited road network, was considered a "quiet rest" area and was held by divisions, blooded and weary from the slugging match in Hürtgen Forest, and by new outfits. It was a weakly held front, and was so recognized; it was a risk, but the risk was slight. American troops were frustrated and weary but offensive-minded. The enemy couldn't attack; he was licked—in time.

CAPTURED German documents seemed to reflect the stress and strain of the enemy. In late November, one German colonel in the 18th Volksgrenadier Division went into a ranting fury—in an order to his men—about the desertion and surrender of six of his soldiers:

"Traitors from our ranks have deserted to the enemy," he proclaimed. "... These bastards have given away important military secrets ... Deceitful Jewish mud slingers taunt you with their pamphlets and try to entice you into becoming bastards also. Let them spew their poison! We stand watch over Germany's frontier. Death and destruction to all enemies who tread on German soil. As for the contemptible traitors who have forgotten their honor, rest assured the division will see to it that they never see home and loved ones again. Their families will have to atone for their treason. The destiny of a people has never depended on traitors and bastards. The true German soldier was and is the best in the world. Unwavering behind him is the Fatherland.

"And at the end is our Victory. Long Live Germany! Heil der Führer!"

This was a clear note of frenetic desperation, of a nation at bay. And our intelligence had reported that "stomach battalions" (men, with stomach ulcers and other ills, combed from hospitals and

rear areas), prison outfits, the aged and unfit, as well as the new Volksgrenadier divisions, were facing us in line.

Yet we weighed too lightly the fanaticism of the Nazis.

And we reckoned without Hitler and the remarkable capacity of the disciplined Germans for reorganization and last-ditch effort.

Victory through Surprise

THE Bulge offensive was a logical outgrowth of the Teutonic mind. The German is never defensive-minded, least of all under Hitler. He had much to gain—little to lose—by a surprise blow. Clausewitz had written that "he who is hard pressed will regard the greatest daring as the greatest wisdom." The offensive was in character—the German character and Hitler's character; perhaps the only anachronistic element was that Hitler who had, in the past, shown a grasp of political, as well as military, strategy, chose to deliver the offensive against the Western Allies instead of

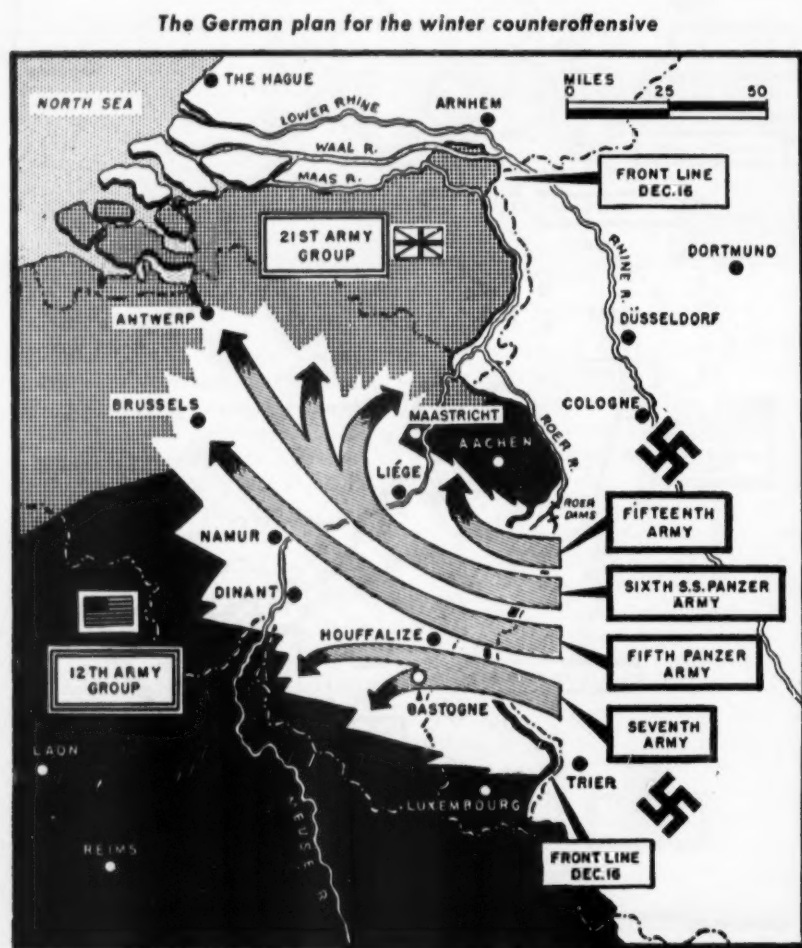
against the Russians. Hitler had considered an offensive in the East but had rejected it; the order announcing the impending blow in the Ardennes, issued on 6 November to the Chiefs of Staff of the Seventh German Army, the Sixth Panzer Army and the Fifth Panzer Army by headquarters of Army Group B, stated that the forces then earmarked for the operation—twelve Panzer and Panzergrenadier divisions, two airborne divisions and twenty Volksgrenadier divisions—"the last that Germany is able to collect"—were too small to offer any prospect "of a decisive success on the vast Eastern Front." And in the West the Allies were on German soil and hammering at the gateways to the Reich; in the East, in December, 1944 the Russians were still on the Vistula, far from the heart of the Reich.

The plans for the German offensive were based on surprise, as had been the first major German offensive of World War II against the French. Hitler and the Germans knew the Ardennes was weakly held; so they determined to exploit our weakness there, by surprise. The enemy's cover plans were therefore a basic part—indeed, a primary part—of the whole operation. Without secrecy there could be no surprise; without surprise there would certainly be failure; with surprise there would be—Hitler thought (though Von Rundstedt and most of the German generals disagreed)—a very good chance of success.

"The most important factor," the coded order of 6 November, issued at Army Group B headquarters said, "will be first—SURPRISE, and next—SPEED! ..."

The German preparations were, therefore, masked by perhaps the greatest security measures known to the history of war. The first—and most important of these measures—was the choice of time and place:

"The success of this operation," Army Group B declared, "will depend fundamentally upon the degree of surprise achieved; therefore the time and place for this offensive will be such as to completely deceive the enemy. Considering the situation, the time and the weather, the enemy will be least likely to expect such an attack shortly before Christmas, from the Eifel (the Ardennes) and against a front only thinly held by him. The objective of the offensive will be Antwerp in order to rob the Allies of this very important supply point and to drive a wedge between the British and American forces. After achieving the objective we will annihilate the British and American forces thus surrounded. ..."



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There was nothing modest about this bold plan and the Germans proceeded to mask their preparations with typical thoroughness. Until the last moment only a few high officers were briefed in the great secret. Any civilians of doubtful heritage were evacuated from the front-line areas, and commanders of units earmarked for the attack issued strict orders to their men—violations punishable by death—against fraternization with German civilians in the area. Armies, corps and divisions changed code names (the Seventh Army, prophetically enough, to "Winter Storm"). The Sixth Army, the ace-in-the-hole, for which all Allied units had been watching, was openly sited in the periphery around Cologne to simulate its readiness to defend against an Allied breakthrough across the Roer.

(After the war when General Sepp Dietrich, commanding the Sixth Panzer Army, was interrogated, he declared that his army remained around Cologne, astride the Rhine, until definite orders for the offensive were received by him on 12 December. Until two or three days before the offensive, the Sixth Panzer Army did not commence to move into attack position—a move shielded by utmost secrecy, and Dietrich himself did not know definitely the Ardennes offensive was ordered, or the date when it was to commence, until four days before jump-off.)¹

The organization of the Fifth Panzer Army was masked by keeping many of its divisions engaged in active operations at the front until mid-November. Corps and army boundaries were shifted gradually and imperceptibly. Units brought from the east or elsewhere or newly organized were concealed under new names. Von Manteuffel's Fifth Panzer Army was called, for instance, Panzergruppe Manteuffel. Radio deception for some units was practiced extensively, and the Sixth Panzer Army—the key unit upon which the success of the offensive depended—observed complete radio silence for at least three weeks before the start of the operation. Small elements of divisions were left in line to permit continued identification by the Allies, long after the bulk of the divisions had been removed. (The 2d SS Panzer Division and the 12th SS Panzer

¹This *ex post facto* testimony must be supplemented by somewhat contradictory facts. X-Day was first set by the Germans for 12 December, and was postponed because the desired period of bad weather was not predicted. On 11-12 December, the principal commanders of divisions, corps and armies which were to participate in the attack, were harangued by Hitler at the headquarters of "High Command West" at Ziegenberg.

THE ENEMY COMMANDERS



VON RUNDSTEDT
German Forces, West



VON MANTEUFFEL
Fifth Panzer Army



MODEL
Army Group B



DIETRICH
Sixth Panzer Army

Division were among the units that used this deception.) Revealing movements were prohibited by halting all motor movement within five kilometers of the Ardennes front. Infantry divisions, earmarked for the assault, did not move into assembly areas until a few days before the attack; during the moves to the assembly area—all at night—unit emblems and vehicular markings were covered, and in night movements light bulbs in vehicles were removed. Along much of the First U.S. Army front, including the quiet VIII Corps sector, deceptive use was made of sound trucks. Sound of tracked vehicles was simulated by loud speaker each night for a month be-

fore the offensive, so that when the actual concentrations started, a few nights before the jump-off, the actual noise of tanks and half-tracks was like the boy crying, "Wolf, wolf!"

Signs and Portents

DESPITE all these precautions, there were signs. The Germans could not possibly keep secret, for instance, the existence of the Sixth Panzer Army, which they had started to form early in the fall. The Allies had long known of its existence and intelligence reports for weeks before the offensive had emphasized it and had discussed its potential.

The risk in the Ardennes was known, faced and discussed, but as Colonel Wilbur E. Showalter demonstrated in *Military Review* (May 1952, "What is Calculated Risk?"), it was not calculated as carefully as it might have been. The Germans, like the Americans, had used the Ardennes front to "break in" new divisions and to rest weary ones. The Allies knew that German strength in the sector had been beefed up from three to more than six divisions before the offensive.

"The Ardennes was considered a danger spot by General Eisenhower and

General Bradley, but not the only one, inasmuch as the Alsace sector was also critical," wrote Colonel James O. Curtis, Jr., who in December 1944 was Deputy to the Chief of the Operational Intelligence Subdivision at SHAEF and Intelligence member of the SHAEF Planning Staff, in a letter to this writer of 28 June 1946. "... in fact from our point of view, the Alsace sector was a much more dangerous one, everything considered, than the Ardennes, for you can imagine what would have been the effect of a German slice through and seizure of Metz upon the French and our own

6th Army Group. The fact that the Germans, in desperation, might employ their last remaining strategic reserves in a gamble to achieve some tactical or strategic advantage was also, I believe, fully appreciated both by General Eisenhower and by General Bradley in a conference at SHAEF which took place long before December 16th" (the start of the German offensive).

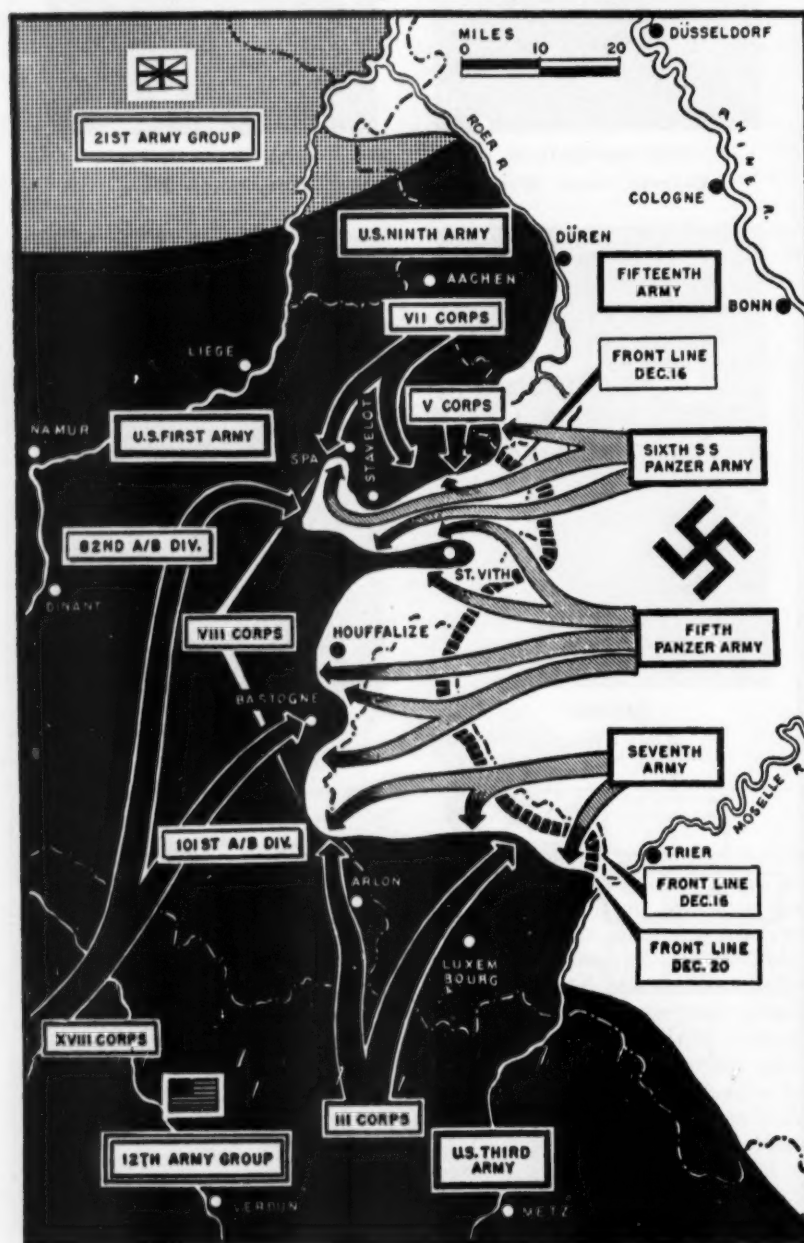
Brigadier General Edwin L. Sibert, then G2 of the 12th Army Group (letter of 2 January, 1947), recalls that "perhaps two and one-half weeks prior to 16 December, I called General Bradley's attention to the German capability of an attack in the Ardennes. After my return from a visit to the Sixth Group, I noted for General Bradley, in connection with the above capability, that two German assault corps had been withdrawn from the line. However, I want to emphasize that I only noted the German capability of an attack through the lightly held Ardennes and at no time did I specifically state that this capability would be—to use our own peculiar intelligence language—"implemented."

"It is also significant [Colonel Curtis notes], that General Patton had appreciated the danger of a German counter-offensive in the Ardennes, as well as one through Alsace, and had made tentative plans for the Third U.S. Army in the event of such a contingency."

"... we always considered a German attack here [in the Ardennes] a capability," wrote (29 May 1946) General W. H. Simpson, then commander of the Ninth U.S. Army. "This was raised in priority by us on 5 December, when, on my return from a conference with General Bradley at Luxembourg, I stopped off to have a short visit with General Troy Middleton [VIII Corps commander] at Bastogne. He told me then of his great concern about the German forces on his front. It was his feeling, and I might say that he felt very strongly on the matter, that whereas previously the Germans had been unloading troops in the rear area, bringing some up to the front line and then moving them to other sectors, he felt that now they were trying to keep the same picture as far as we were concerned, but were actually building up a large force in the rear areas. He further stated he had made known his concern to First Army headquarters. . . ."

Although this well-nigh universal perspicacity as quoted was recorded *after* the event, the diaries and intelligence documents and independent recollections of numerous participants (many of them consulted by this writer) agree

Fast Allied reaction upset the German timetable



From *A Soldier's Story*. By General Omar Bradley. Copyright, 1951, Henry Holt & Co., Inc.

that the existence of the Sixth Panzer Army and the weakness of the Ardennes sector were factors that were mentioned at many staff presentations in the days and weeks before the German drive began.

There were—despite the German secrecy—far more specific signs, and these became particularly noticeable after 1 December.

On 20 November a German general was captured by the French on the Seventh Army front. He confirmed, when interrogated, the existence of the uncommitted Sixth Panzer Army, commanded by SS General Sepp Dietrich, and declared that this army was to be “used for a single large-scale counter-attack on the Western Front scheduled for the end of December.”

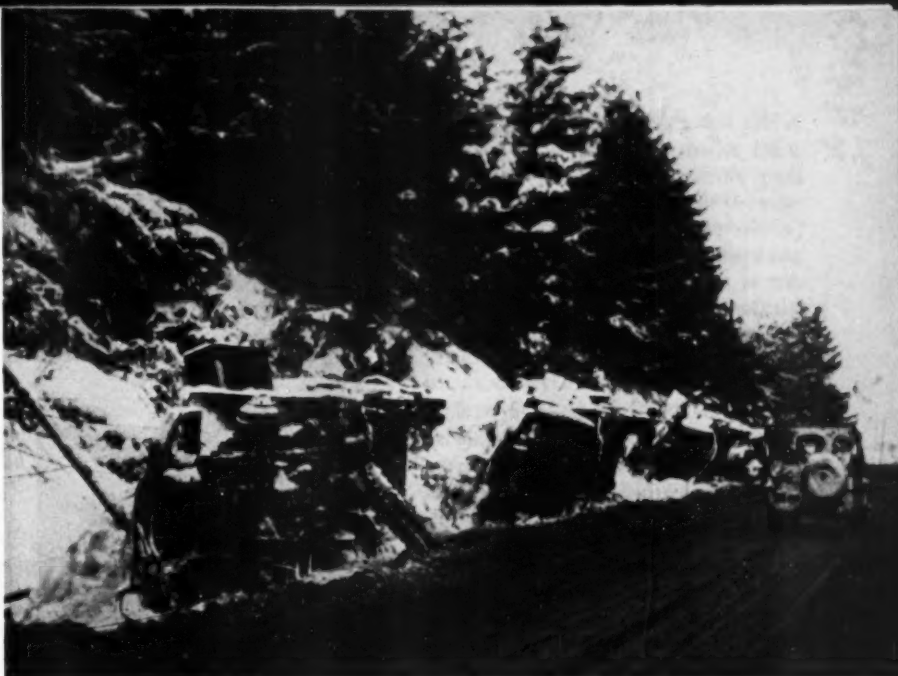
In early December, a copy of a letter signed by “Wissman, Chief of Staff” of the German LXXXVI Corps was captured, which declared that “the Führer had ordered the formation of a special unit of a strength of about two battalions for employment of reconnaissance and special tasks on the Western Front.” The battalions, the letter stated, were to be drawn from volunteers who knew English and the “American dialect,” and “captured U.S. clothing, equipment, weapons and vehicles” were to be collected and utilized by this special unit. Otto Skorzeny was known to have established a special school near Friedenthal for these men.

Prisoners of war also began to speak of shifts of army boundaries south and east (specifically, shifts of the Fifteenth Army and Fifth Panzer Army southward were reported), and two Panzer divisions—the 2d and 116th—disappeared from the line. The 2d was subsequently reported (among other places) near Wittlich behind the Ardennes front.

Troop and train movements into areas opposite the U.S. VIII Corps front were noted; “a conservative estimate [12 December, Daily Periodic Report, First U.S. Army, G2] would place at least two Volksgrenadier and one Panzergrenadier divisions in the enemy’s rear area opposite VIII U.S. Corps.”

V-1 fire on Liège and Antwerp virtually stopped in the first two weeks of September.

On 13 December various POWs spoke of three divisional shifts, and on 14 December and 15 December, VIII Corps reported statements of a German woman “believed reliable” who had seen considerable movement of equipment including pontons and bridging material “behind the German lines” (near Bitburg, opposite VIII Corps front) and



Allied and German motor vehicles put out of action by weather and fire during the fighting northeast of Bastogne

noted “an abrupt change of routine of enemy personnel opposite the U.S. 9th Armored Division [which] suggests that new troops may have arrived in that area.”

Visual air reconnaissance, although periodically hampered by weather, flew a total of forty-eight missions along the U.S. First Army front in the first fifteen days of December. Five daily missions were planned for each corps front, but along the VIII Corps front in the Ardennes, only eight missions were flown during the period 1-15 December (both inclusive). Both road and rail movements were intermittently detected (when weather permitted), all along the front—most of it to the north in the V and VII Corps areas. “Considerable activity” was noted in the Trier area (northwest of Luxembourg, opposite the VIII Corps front) on 14 December.

Photo reconnaissance missions also picked up enemy activity of many kinds—some of it back of the VIII Corps front—including gun emplacements, troop concentrations, rail and road movements.

Night reconnaissance yielded little information, however, due in part to a major shortage of aircraft.

In a study of enemy armored reserves, by the “Target Subsection” of G2 First Army (dated 8 December), Bitburg and other towns, railheads and rail junctions behind the VIII Corps front, as well as numerous towns behind V and VII Corps fronts were listed as profitable targets—troop concentration areas or railheads.

And about 11 December one of many

warnings was sent out by teletype from the headquarters of the U. S. Ninth Air Force to the IX Tactical Air Command and lower units that the Luftwaffe had built up sufficient strength opposite the U. S. First Army front to make air penetrations of about sixty miles above our front lines, and that these penetrations were likely to be attempted during the next two weeks.

Perhaps most important of the “straws in the wind” was the interception and decoding of a German message (by the 12th Army Group G2) about two weeks before the attack, which ordered certain Luftwaffe units to reconnoiter the Meuse River bridges.

And in England, agents in German POW camps reported that 16 December had been set as the date for a mass break, Robert E. Merriam wrote in *Dark December*.

Failure of Perspective

DESPITE all these signs the intelligence reports of the period failed to evaluate the gathering storm in proper perspective.

British Major General Kenneth W. D. Strong, Eisenhower’s intelligence deputy at SHAEF, stated on 26 November in his weekly intelligence summary, that “the intentions of the enemy in the Aachen sector [north of the Ardennes] become quite clear. He is fighting the main battle with his infantry formations and army Panzer divisions and with these, he hopes to blunt our offensive.” Like most other G2s, Strong thought the Sixth Panzer Army would be used

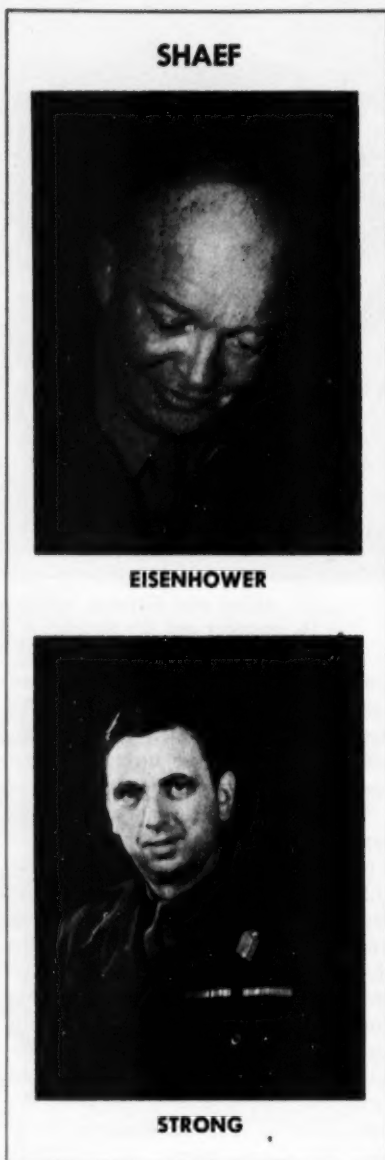
in this sector defensively, or in counter-attack when we attempted to cross the Roer River. On 3 December, Strong recorded that the "longest term problem [of the enemy] is to find enough men and equipment to stand up to the present rate of attrition." He felt that to date, attrition losses had been met "to a large extent by feeding the fat from the Ardennes and from Holland to the battle sectors."

SHAEF's Weekly Intelligence Summary No. 38 of 10 December, the last before the German offensive started, opened with the sentence: "On the Western Front an unstable equilibrium is still maintained." The withdrawal of infantry divisions from "quiet sectors for use in the battle areas" was noted, and similar withdrawal of armor "for refit" was reported. "The number of nominal enemy divisions in the West is increased by one to seventy-one. . . . Continuing troop movements toward the Eifel [Ardennes] sector . . . suggest that the procession is NOT [Strong's capitals] yet ended. Other considerable road movements . . . in direction of Holland and in direction of First Army sector." Under "enemy capabilities," the SHAEF report noted heavy German losses, defined the Cologne-Düsseldorf area as the "vital sector" for the enemy; noted that German morale showed "no signs of cracking"; said that so far the battle "must have gone better for him [the enemy] than he had anticipated, and so "we cannot expect anything else but continued reinforcement [in the Cologne-Düsseldorf sector, north of the Ardennes], hard and bloody fighting, every sort of defense. . . . It will be a bitter and hard struggle to reach the Rhine."

There was only a slight note of apprehension; until the Sixth Panzer Army is committed, "We cannot really feel satisfied," Strong declared.

Field Marshal Montgomery's Oxford don, Brigadier "Bill" Williams, G2 for the British 21st Army Group, also produced in early December a glowingly optimistic estimate of German weaknesses, which "Monty" liked so well he incorporated the main elements in a Top Secret order of 16 December (the day the German offensive started) dealing with future Allied operations. Paragraph 3 of this order read:

"The enemy is at present fighting a defensive campaign on all fronts; his situation is such that he cannot stage major offensive operations. Furthermore, at all costs he has to prevent the war from entering on a mobile phase; he has not the transport or the petrol that



would be necessary for mobile operations, nor could his tanks compete with ours in the mobile battle."

Paragraph 4 began with these reassuring words: "The enemy is in a bad way . . ."

The U. S. 12th Army Group's "Weekly Intelligence Summary No. 18" dated 12 December, but for the week ending 9 December, was almost equally definite. Brigadier General Sibert, the G2, had used the writing skill of a well-known author, Ralph Ingersoll, then in uniform assigned to 12th Army Group staff, to produce this report from the facts provided him. It was unfortunate that this estimate, which reached the front-line divisions just before the Germans struck, was unequivocal in its opening sentence:

"It is now certain that attrition is steadily sapping the strength of German

forces on the Western Front and that the crust of defenses is thinner, more brittle and more vulnerable than it appears on our G2 maps or to the troops in the line."

The report went on to state that "the deathly weakness of the individual infantry division in the line, plus the inevitability of the enemy failing still further in replacement arrears, make it certain that before long he will not only fail in his current attempt to withdraw and rest his tactical reserve but he will be forced to commit at least part of his Panzer Army to the line."

"The enemy's primary capabilities continue to relate to the employment of the Sixth SS Panzer Army but it may not be possible for the enemy to have complete freedom of choice as to the time and place of its employment. The situation is becoming similar to that which existed at Caen and St. Lo. . . . If the situation deteriorates seriously in the South, he will be forced to transfer some of the armor quickly to that area. At the same time, he must keep a strong reserve in the North to deal with a potential break-through in that area."

The U. S. Third Army G2, Colonel Oscar Koch, came closer to the mark. He reported that enemy rail movements in the early part of December, "indicated a definite buildup of enemy troops and supplies directly opposite the north flank of Third Army, and southern flank of First Army." On 9 December, he thought there were some 6½ enemy divisions in the Eifel area, and on 10 December, Colonel Koch specified that the enemy was able to "maintain a cohesive front" without committing the bulk of his infantry and armored reserves. He declared that the "massive armored force" the enemy was building up in reserve gave him "the definite capability of launching a spoiling offensive."

Colonel B. A. ("Monk") Dickson, the First Army G2, was even more explicit. He was optimistic in his report No. 36 of 20 November 1944, and thought "the enemy's capability of a spoiling attack is now lost." His (the enemy's) "strategic plan appears to be based on counterattack rather than a planned offensive opened on his own initiative."

By 8 December however, Dickson discovered what he felt were strong enough concentrations of the enemy in the Eifel to warrant bombing. General Hodges requested concentrated air attacks and Major General Elwood R. Quesada, Commanding the Ninth Tactical Air Force, endorsed the proposal, but higher Army Air Forces echelons thought the targets "unremunerative." (Letter of

Dickson to author, 28 May 1952.)

In the famous Estimate No. 37, dated 10 December, Dickson changed his tone sharply. The signs he had noted in late November and early December convinced him that "it is plain that his [the enemy's] strategy in defense of the Reich is based on the exhaustion of our offensive to be followed by an all-out counter-attack with armor, between the Roer and the Erft, supported by every weapon he can bring to bear. . . .

"It is notable that morale among PWs freshly captured, both in the Army cage and at Communications Zone cage, recently achieved a new high. . . . It is apparent that Von Rundstedt, who obviously is conducting military operations without the benefit of intuition, has skillfully defended and husbanded his forces and is preparing for his part in the all-out application of every weapon at the focal point and the correct time to achieve defense of the Reich west of the Rhine by inflicting as great a defeat on the Allies as possible. Indications to date point to the location of this focal point as being between Roermond and Schleiden [north of the VIII Corps front]. . . ."

Under "Enemy Capabilities," Dickson listed:

"(1) The enemy is capable of continuing his defense of the line of the Roer north of Duren, his present front line west of the Roer covering the dams, and thence south along the West Wall.

(2) The enemy is capable of a concentrated counterattack with air, armor, infantry and secret weapons at a selected focal point at a time of his own choosing.

(3) The enemy is capable of defending on the line of the Erft and subsequently retiring behind the Rhine.

(4) The enemy is capable of collapse or surrender."

Dickson thought that capability No. 1 was "current," and that the exercise of No. 2 "is to be expected when our major ground forces have crossed the Roer River, and if the dams are not controlled by us, maximum use will be made by the enemy of flooding of the Roer in conjunction with his counterattack." But Dickson concluded the famous Estimate No. 37 with a prophetic statement:

"The continual building up of forces to the west of the Rhine points consistently to his staking all of the counteroffensive as stated in capability 2."

This estimate, widely distributed, alarmed some; in England, Lieutenant General Matthew B. Ridgway, commanding XVIII Corps, read it and used it as a warning against overconfidence in a Christmas message he was preparing

for his troops; in Belgium, the 9th Armored Division—one of the divisions in the Ardennes sector—was alarmed, but was subsequently somewhat reassured by the 12th Army Group estimate which arrived later.

In his last report before the storm struck, a "periodic" dated 16 December, Dickson reported recent information compiled before that date, and stated:

"Reinforcements for the West Wall between Duren and Trier [VIII Corps front] continue to arrive. . . . Although the enemy is resorting to his attack propaganda to bolster the morale of the troops, it is possible that a limited scale offensive will be launched for the purpose of achieving a Christmas moral 'Victory' for civilian consumption.

"Many PW's now speak of the com-

ing attack between the 17th and 25th of December, while others relate promises of the 'recapture of Aachen as a Christmas present for the Fuehrer.'"

By the time this warning had been distributed, the enemy had struck.

Tactical Surprise

WHAT happened is history. The Germans achieved almost complete tactical surprise. The strength, drive and ferocity of their offensive came, especially, as a stunning blow; and the time and place of their assault also surprised us. Surprise was, in fact, the decisive factor in the enemy's early successes. And those successes were major, even though, in retrospect, the Battle of the Bulge comprised victory as well as defeat for American arms.

A reeling enemy suddenly regained his strength and dealt a blow to the Allied morale and the Allied war plans that no historian can minimize. American losses were severe; two divisions were almost broken, others severely mauled, the Third Army alone lost 20,000 battle casualties and 13,778 frostbite and non-battle casualties in the last two weeks of December; the total toll of the Bulge was more than 76,000 American casualties. The enemy missed by 500 yards a 3,300,000 gallon gas dump. He captured at least 68,000 gallons of gasoline (a drop in the bucket in modern war, not nearly as much as he had hoped and nowhere near enough to keep his Panzers moving), 1,284 machine guns, 542 mortars, 1,344 trucks, and 237 tanks. Tons of ammunition and huge dumps were destroyed to prevent capture.

On New Year's Day, long after the German effort had reached its high-water mark and had begun to recede in blood and wreckage, the Luftwaffe dealt a savage surprise blow (Volume III of *The Army Air Forces in World War II* calls this attack "stunning" and an "ugly surprise") with 700 planes against Allied airfields in the Netherlands and Belgium, a raid which cost the Allies 156 planes.

The whole front was thrown awry and on 12 January when the Red Army jumped off from the Vistula, the Allies in the West were still painfully reducing the Bulge; the German offensive had averted simultaneous attacks upon the German citadel from east and west.

But these initial successes were attained at an eventual terrible cost to the Germans. By the middle of January the enemy had lost in the Bulge an estimated 120,000 casualties and much matériel impossible to replace. Yet the

12th ARMY GROUP



BRADLEY



SIBERT

Nazis, despite their initial deep penetrations, did not even reach their minimum objective: the crossings of the Meuse. And Antwerp, the basic goal, was far beyond their grasp. The bitter defense of its borders and its desperate gamble in the Ardennes, weakened fatally the Nazis' subsequent defense of the line of the Rhine.

NEVERTHELESS, the facts were clear. The enemy had committed to battle in the Ardennes on 16 December some seventeen divisions, with fourteen more divisions in reserve which were subsequently committed before 4 January. A total of some 240,000 to 300,000 men had been moved into position to strike against the weakest link in the long Allied line from Switzerland to the sea, and our maximum pre-attack estimate of enemy strength in the Ardennes area had been 6½ divisions! Scores of thousands of men had been shifted into the area without our heeding it. Moreover, hundred of fighters—the exact number is unknown—some estimates are as high as 1,500, others much lower—moved from bases in Central Germany to fields in Western Germany to support the ground offensive, again with little warning of the shift.

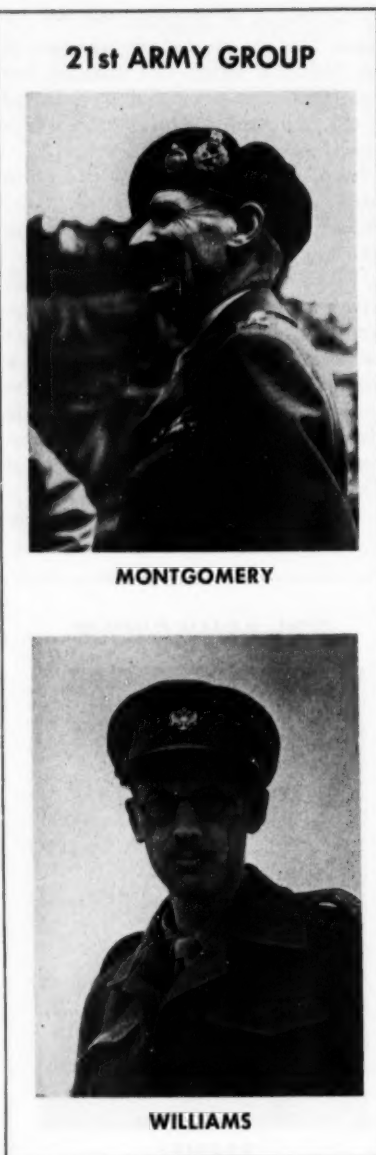
Field Marshal Keitel and Colonel General Jodl later said with absolute correctness [Robert E. Merriam, *Dark December*, Ziff-Davis Publishing Co.] that the Battle of the Bulge was "fundamentally one of surprise, and to this extent we believe it was a complete success."

Diagnosis or Autopsy

ANY appraisal of what went wrong with our Intelligence prior to the Battle of the Bulge has to start with a state of mind. The American Army is attack-minded. This is at once its strength and its weakness. We paid lip service before World War II to the defensive at our military schools, but our thinking was geared to the attack, and, as the Germans learned, an offensive psychology—overdone—can pave the way to G2 mistakes.

Captain William J. Fox, who was with the V Corps at the time of the Bulge battle, has depicted this state of mind:

"The whole air of the First Army zone was one of slightly angry bafflement, for we had been trying since early November to crack through to the Cologne Plain and reach the Rhine. The psychology still was one of attack, however, and no one seemed seriously to consider that the Germans had a Sunday punch left. The mental approach from



the lowliest man in the front line to the highest brass on the staffs was one of attack. . . . None of us found any evidence among our troops or commanders of awareness that a possible large-scale German counter-attack might be in the wind."

Coupled with this attack psychology was a slightly angry bafflement and frustration at continued German resistance and at prolongation of the war into winter. There was some resignation, and—as always—an attempt wherever conditions permitted to make the best of any small luxuries the field allowed. This was true on the VIII Corps front, where the badly battered 28th and 4th Infantry divisions—both veterans of Hürtgen Forest—were trying to catch their breath, and where the 106th, new to war, was

shakily fitting into combat condition.

It was true, too, of First Army headquarters at Spa, Belgium.

"Until then," a staff officer of that time wrote (3 October 1946), "we had been in the field in tents. I mention this because there is no doubt that once we moved into buildings we began to feel more civilized, and on the whole I don't think the headquarters was on its toes as much as it had been when the men were out in the swamps or fields. Spa, an almost untouched city, is one of the great European resorts, and the buildings into which we moved offered many luxuries. The brains of the headquarters—the Commanding General, the Chief of Staff, and the G2 and G3 sections, as well as a few others—were stationed in the Hotel Britannique, five minutes off the main square of Spa . . . [a hotel which] had served in 1918 as the Imperial German Headquarters . . ."

These psychological influences could not help but affect intelligence officers, British as well as American.

"We were fooled because we were overconfident," Robert E. Merriam wrote in *Dark December*, "and certain that we had the Germans on the run. Intelligence officers, who were supposed to be born pessimists, were vying with each other for the honor of devastating the German war machine with words."

The "attack psychology" and the doctrine of the offensive also had another effect in the American Army; it resulted, almost universally, in the downgrading of G2. In theory, sometimes in rank, but rarely in fact, were the G2s and G3s co-equal and supplementary partners.

There was then, and there still is today a tendency on the part of most commanding generals to lean more heavily on G3 than on G2; the perfect staff blend is rarely found.

General Bradley used to say that "My 2 tells me what I should do; my 4 tells me what I can do, and I tell my 3 what I want done." The then 12th Army Group commander made his decisions after a careful briefing from his G2 and a subsequent long study of a terrain map. But this was not universal practice; too often, the dash and aggressiveness of American commanders could be reflected in Farragut's: "Damn the torpedoes; full speed ahead!"

This is indeed admirable courage but it is not recommended for application to all battle situations. A proper appreciation of the enemy is the key to success in war; the German and Japanese armies possessed the aggressive spirit to as high a degree as any armed services on earth,

yet their estimate of the enemy who defeated them verged on the contemptuous.

In the First Army headquarters at the time of the Battle of the Bulge, that happy melding between G2 and G3 which is the key to success in battle did not exist. Colonel Dickson, the G2, was outranked by the G3, who was promoted during the earlier part of the continental fighting. At the time of the Bulge, Dickson was very much opposed to the Hürtgen Forest battle, and the dichotomy that existed between him and G3 was more marked than normal because of the existence at the Spa headquarters of two separate staff messes, with Dickson, a colonel, assigned to one, and with the chief of Staff, G3 and G4 and other general officers in charge of staff sections, in another.

This down-grading of intelligence, about which General Eisenhower and so many other American officers then commented, was compounded at the time of the Battle of the Bulge by personality differences. Nearly all official histories of war—our own included—treat these human conflicts lightly, if indeed at all, but men—not machines—make war and the interplay of personalities, inescapable in all human endeavors, has often changed the course of campaigns.

Personalities had no such far-reaching influence in the Bulge Battle but these human likes and dislikes had some importance.

"Within the First Army headquarters," a staff officer then assigned wrote, "personalities played a big role."

The differences between G2 and G3 in this headquarters and to a lesser extent between G2 and the Chief of Staff were in part due to personality clashes; the three men were utterly different in methods, temperament and outlook. At the daily conferences it seemed to some of Dickson's officers that his intelligence estimates, sometimes enlivened by the peculiar slang of the trade (Dickson called prisoners "customers"), were not always taken too seriously.

There was also what might be described as a "coolness" between G2, First Army—Colonel Dickson—and G2, Twelfth Army Group—Brigadier General Sibert. Again rank intruded; Dickson, the veteran of First Army action, who had served in North Africa and Sicily, and had landed in Normandy, was still a colonel, and was still G2 of First Army, though his chief, General Bradley, had "fledged up" to command the 12th Army Group. Both Dickson and Sibert came from old Army families; their fathers had known each other

in Panama years before; Dickson, a West Pointer, had left the Army to return to service in World War II; Sibert, a year ahead of Dickson, had stayed in. The difference in rank and position, plus the entirely different personalities of the two men, had an effect upon their relationships, which were always correct and never hostile—but certainly not cordial.

This feeling was never expressed openly by either man; in correspondence and interviews with this author, both have discounted it; but their staffs felt, and expressed it. The OSS operatives, for instance, who worked out of 12th Army Group headquarters, had a picture of Hitler at their CP, and under it it bore the totally unfair legend:

"He fools some of the people some of

the time but he fools Dickson all of the time."

This almost sophomoric display did not stem, however, entirely from the First Army-12th Army Group frictions, but in the case of the OSS, it resulted in part because Dickson with General Bradley's support had strictly limited OSS operations in the First Army area.

The friction seems to have been worsened somewhat by the lack of a sense of humor of an OSS officer at the 12th Army Group. Someone at First Army wrote a humorous parody of a PW report, alleging to represent the results of an interrogation of "Hitler's latrine orderly." The one OSS officer then permitted to head a section (counter-espionage and anti-subversion) in the First Army took this parody to his superior at 12th Army Group "for a laugh." Unfortunately, the paper was taken seriously; First Army was ordered officially to fly the prisoner to SHAEF and when the explanation that it was all in fun was made, there seems to have been considerable embarrassment among the 12th Army Group OSS personnel.

There were also lesser frictions—due in part to personalities, in part to individual interpretations of natural interests at SHAEF itself. And General Strong, the British G2 at SHAEF, and one of his deputies found themselves at odds on occasions with the British Oxford don—Brigadier Williams, who was Field Marshal Montgomery's able intelligence officer.

These personality frictions were complicated by differing American and British intelligence concepts. General Strong, for instance, seemed to feel, in accordance with British practice, that he occupied a sort of command position in relation to the G2s of the army groups and field armies, and he actually undertook to take both Brigadier Williams—a Britisher, who understood this concept—and Colonel Dickson, an American, who did not—to task for what he, Strong, felt were mistakes in their order of battle estimates.

Among American G2s there was relatively little coordination, no real "meeting of the minds" and only intermittent attempts to reconcile differing estimates. There was no such "command concept" as that which motivated General Strong. There was a strong feeling that G2 estimates should be made readable and "lively"; many of them were embellished with quotations and historical analogies, but some paid too much attention to this literary surface dressing and not enough to the solid subsoil of fact.

The lack of direction and coordination

FIRST U. S. ARMY



HODGES



DICKSON

was further complicated by the old problem of "capabilities" or "intentions." The British often undertook to establish the enemy's intentions, with all the risks inherent in such prophecy: the U.S. listed every possible capability under the sun, some of them differing markedly: from all-out offensive, to "collapse and surrender."

Another and more basic failure was the inadequacy of collection; we just did not get all the facts that were available. There was a variety of reasons for this.

In General Sibert's words "we may have put too much reliance on certain technical types of intelligence, such as signal intelligence . . . and we had too little faith in the benefits of aggressive and unremitting patrolling by combat troops. We had no substitute, either, for aerial reconnaissance when the weather was bad; and when we came up to the Siegfried Line, our agents had great difficulty in getting through, particularly in the winter."

Dependence upon "Magic," or signal intercepts, was major, particularly at higher echelons; when the Germans maintained radio silence, our sources of information were about halved.

The most outstanding failure was in aggressive patrolling, the weakness that is constantly emphasized in every maneuver and in every recent war in which Americans have engaged. This failure to probe deep into the enemy's lines to bring back many prisoners and force him, by reaction, to reveal his intentions, was particularly pronounced on the VIII Corps front, where the natural let-down of exhausted troops shifted from bloody carnage to a "quiet sector" was a factor. And at higher headquarters too little attention was paid to even the few ground patrol reports that were available.

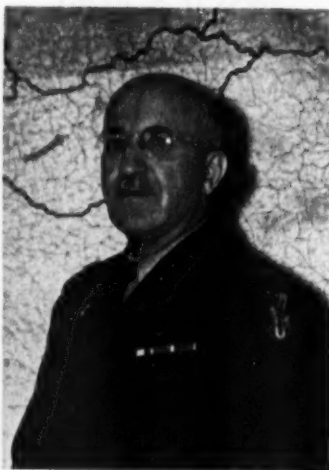
The reduced reports of agents behind the enemy's lines, in part due to tighter German security measures, also reflected a lack of adequate coordination between the Office of Strategic Services, an outfit for which too many of the combat units had little use, and the Army. There was also a misuse of the intelligence sources available to a field army.

The limited success of air reconnaissance was in part due to the atrocious weather, but the night air effort was also handicapped by shortages of adequate aircraft. Moreover, the value of visual reconnaissance, as distinct from aerial photography, could not be measured by the numbers of missions flown or the reports made (many of which were erroneous), for the pilots and observers

THIRD U. S. ARMY



PATTON



KOCH

were largely untrained in identification of ground targets. Martin M. Philipsborn, then a Major and S2 of Combat Command B of the 5th Armored Division, in a "Summary of Intelligence Operations" from July 1944 to May 1945 (27 May 1945), commented on "the absolute and complete failure of aerial reconnaissance." Increased "tank and vehicular recognition courses for the air force" were indicated.

The ground-air organizational liaison also left something to be desired. The official history—*The Army Air Forces in World War II* (Volume III, page 68)—comments that "the air force was responsible for the initial screening of the results of its own reconnaissance. Perhaps the chief fault was one of organization, for there seems to have been a

twilight zone between air and ground headquarters in which the responsibility had not been sufficiently pinned down."

There was, finally, a failure in evaluation. For no one predicted accurately the German offensive. Colonel Dickson, G2 of the army most involved, was closest; his estimates just prior to the attack, warned clearly of the danger of a heavy German blow. But he was wrong as to place; the German security measures were successful in that they made us believe the attack, when it came, would be toward the Aachen area—north of the Bulge. And he was somewhat inexact as to time; Dickson expected the "counterattack" or "counteroffensive" (as he variously called it) when we had crossed the Roer or controlled its dams. Neither Dickson nor anyone else correctly assessed the power of the enemy drive. Moreover, Dickson's definite note of warning was diffused, as were the estimates of all other G2s, by inclusion of numerous "capabilities." We hedged against all bets.

Correct evaluation might have rectified weaknesses in organization, differences in concept, personality frictions, and inadequate collection. But it did not do so. As Colonel Showalter demonstrated in the *Military Review*, "aggressive patrolling increased [on the part of the Germans], high-caliber units were reported in the front line, river-crossing equipment was located in the forward areas, troops were recalled from the rear, and a large build-up, including armored divisions, was reported in what previously had been a quiet sector. In spite of these telltale signs, intelligence estimates were *not* materially revised. [Colonel Dickson's particularly—and to a certain extent, the report of Colonel Koch—were exceptions] . . . intelligence did not measure up to the trust of its commanders. . . ."

The failures in evaluation were, in one sense, a composite of all the weaknesses previously noticed, plus other factors.

There was far too much of a scratch-my-back-I'll-scratch-yours attitude among various G2s. Each echelon was eager to pad out and expand its factual output. Bits of information, often reported speculatively, would be picked up by higher G2s, and would appear and reappear in echelon estimates, often with the qualifying factors omitted, until they came to be accepted as facts, instead of possibilities.

Higher echelon G2s, privy to a flow of information from "Magic," British Intelligence, OSS, and others, often incorporated so much in their reports that

front-line combat units received a plethora of data, much of it of little use to them; the lower-level G2 had great difficulty in separating the chaff from the wheat.

The deficiencies of much of this "high level stuff"—which gave for instance the strategic situation on the Russian front, and described the psychology of the Rhinelanders—is best illustrated in the official words of Major Philipsborn (Summary of Intelligence, 27 May 1945):

"While it is perhaps an exaggeration, nevertheless there is a certain amount of truth in the statement that while we knew to a nicety where bridges, fords and brothels were located in towns all around us, we rarely, if ever . . . knew where the enemy's anti-tank gun was sited."

Conclusions to a Case History

SUCH, then, was the case history of intelligence in the Battle of the Bulge.

History, many say, is simply Monday-morning quarterbacking. But the intelligence lessons of the Battle of the Bulge are still pertinent today, in an era when accurate intelligence may mean the difference between national life and death.

The lessons of the Bulge are clear:

- (1) Maintenance at all levels of an objective frame of mind; the "attack psychology", overdone, can lead to disaster.
- (2) Maintenance of G2 officers at all levels as heads of staff sections co-equal with all other staff sections. A proper mating of G2 and G3 is a key to victory; they must work as one; there can be no downgrading of intelligence.
- (3) Elimination of staff and personality frictions at all levels is the responsibility of command.
- (4) Improved coordination between differing echelon G2s; a modified version of the British command system might be tested. Reports sent to lower commands must be carefully sifted to eliminate unnecessary detail.
- (5) Modification of our estimates to something perhaps halfway between the British emphasis upon enemy "intentions" and our own tendency to list enemy "capabilities" as a means of hedging all bets;
- (6) Aggressive patrolling at all times and at all parts of the front;
- (7) Better training of air reconnaissance units and improvement of night reconnaissance techniques;
- (8) Full utilization of all available collection sources;
- (9) Careful selection of intelligence

officers for their: analytical ability and aptitude in the collation of facts and their synthesis; knowledge of the enemy; judgment and ability to work in harness;

(10) Establishment of career intelligence officers and the training of specialists, particularly in the field of evaluation.

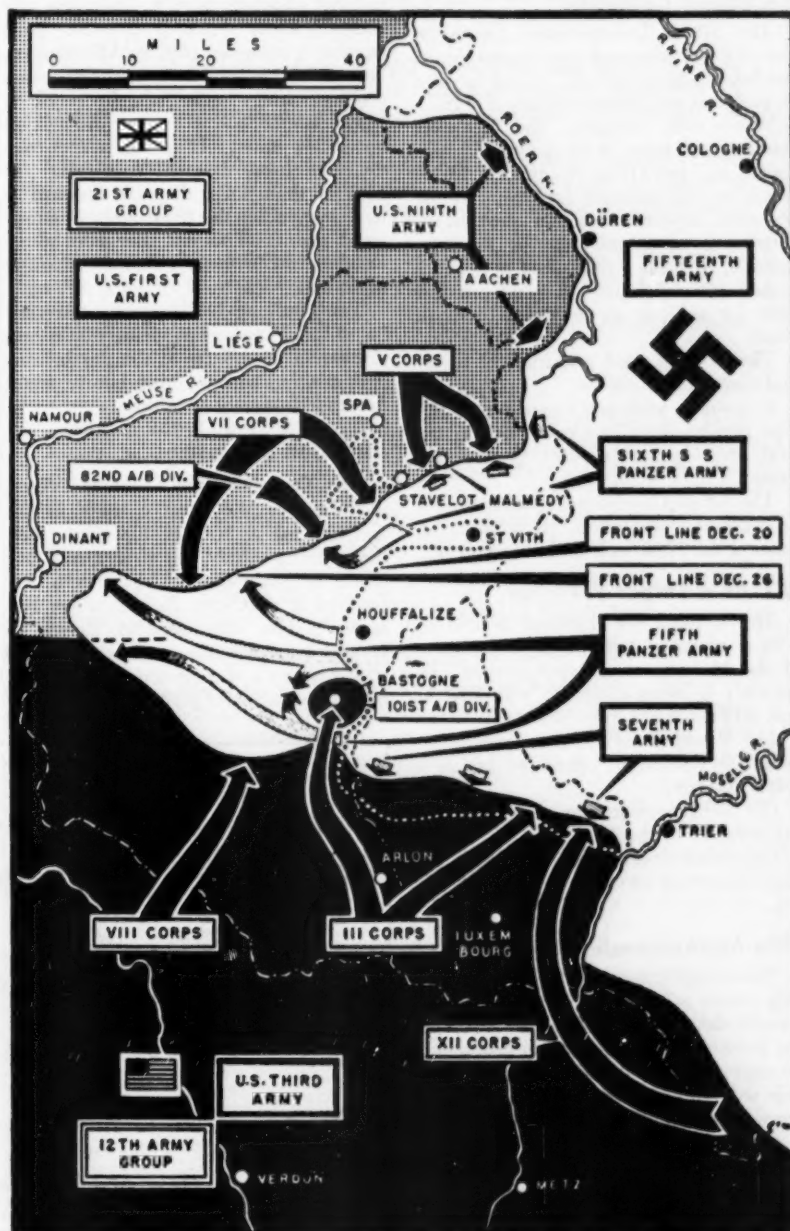
That these lessons are still applicable today—eight years after one of the greatest battles in which Americans have ever fought—is attested by the report of an operational analysis study, which held that the collection, evaluation and distribution of battlefield intelligence by

both the Army and Air Forces were entirely inadequate.

The aggressive spirit is a priceless heritage of the American armed services. Without it there can be no triumph in war. But its overemphasis—and consequent neglect of the defensive and of a knowledge of your enemy—can lead to disaster, particularly in the age in which we live, where we face an enemy more nearly comparable in strength to ourselves than any in our history.

Today, inscribed in the brain of every commander, there should be one slogan: "Know your enemy—or die."

The high tide of German penetration



From *A Soldier's Story*. By General Omar Bradley. Copyright, 1951, Henry Holt & Co., Inc.

FRONT and CENTER

THE INFANTRY SCHOOL

New Film

Representatives of 20th Century-Fox Corporation have been at The Infantry Center to film training activities as part of a documentary movie, "Report to the Army"—an hour-long Technicolor film covering the activities of the whole Army. Produced by the Department of the Army it will include shots of Army activities at many posts and stations in the United States and overseas.

Helicopter Company

The 506th Transportation Company, one of three helicopter units in the Army, has been assigned to TIC. It will be used in problems and demonstrations of TIS.

When fully equipped, the helicopter company will have 14 Sikorsky H-19 helicopters and two Hiller H-23s. The H-19, which is used primarily for troop-carrying and evacuation missions, can transport 10 fully-equipped infantrymen or six litter patients. It has a flying speed of approximately 100 miles per hour and can stay aloft for as long as three and one-half hours.

The H-23 is used primarily for utility and observation missions.

In combat, helicopter companies of this type perform short-haul operations in tactical and logistical support of front-line units.

The 506th Transportation Company has 23 warrant officer pilots, all recent graduates of the Helicopter School at Fort Sill.

M1 As a Sniper Weapon

The Combat Development Section of TIS is currently testing the effectiveness of the M1 rifle as a sniper weapon. Its accuracy is being compared with that of bolt action rifles to determine:

(1) Whether the M1 is sufficiently accurate to warrant its continued use as a sniper weapon.

(2) What modifications would improve the accuracy of the M1.

(3) What ammunition, other than the M2 ball, would be most effective for sniping.

Rifle Marksmanship Course

The second Instructors' Rifle Marksmanship course is in session. Four two-week courses, designed to standardize and raise the level of rifle marksmanship instruction throughout the Army, will be held yearly. Selected officers and enlisted men from all army areas attend the course.

4.2-Inch Mortar Battalion

The Infantry School has been given the responsibility for instruction related to the 4.2-inch chemical mortar battalion which was recently designated an infantry battal-

ion. It is anticipated that the 4.2-inch Mortar Battalion Course will be from four to six weeks in length and will emphasize gunner and FDC training.

THE ARTILLERY SCHOOL

Realism in FO Training

TAS has devised a gunnery problem that makes the training of artillery observers much more realistic. During a service practice period, the students are designated forward observers with a front line rifle company about to launch an attack. Each student is equipped with an M2 compass, binoculars, a map of the area and necessary communications. The students walk to eight different OPs, a total distance of about 1½ miles. They adjust fire from each OP using different equipment. At each of three OPs, they are assumed to have lost one of the three items of equipment, and, as a final test, they are required to adjust fire without a compass, map, or binoculars.

The "walking OP" approximates combat observer conditions, giving the student a different perspective of the terrain from each position and requiring him to adjust fire under different conditions.

Battalion Defense

The Department of Combined Arms, including all the latest changes in the T/O&E for a 105mm howitzer truck-drawn firing battery, has given a new look to its demonstration, "Organization and Defense of a 105mm Field Artillery Battalion." The demonstration shows six 105mm howitzers dug-in and camouflaged with a network of communication trenches connecting howitzer positions and the bat-

tery fire direction center. Barbed wire encloses the battery perimeter. Machine gun emplacements, rocket launcher positions, and individual foxholes are located for final defensive fires. All automatic weapons are emplaced to insure interlocking bands of fire. The proper organization of the headquarters battery area, including the message center, switchboard, battalion aid station, fire direction center, and landing strip, is also demonstrated.

Observed Fire Fan

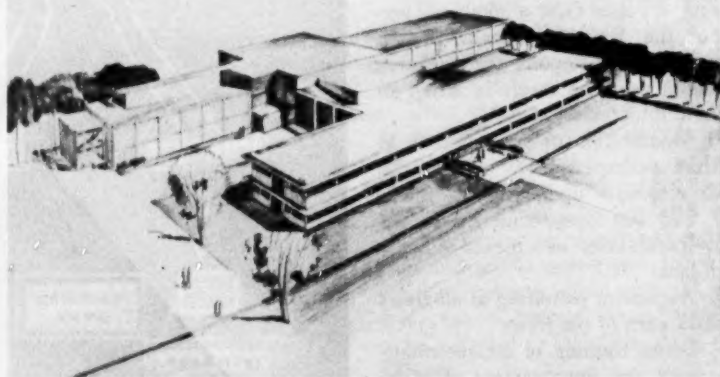
The Department of Gunnery now issues students in Battery Officer and OCS classes an OF fan to assist in target location. The instrument is simply a fan-shaped protractor constructed of transparent material, covering a sector of 1600 mils. It is divided by radial lines each representing 50 mils. Range arcs are drawn on the face of the fan every 50 yards from 1000 to 4000 yards and at 5000 yards.

To use the fan, the student places the vertex over his map location. He then orients the fan on the map location of a point of known direction. For example, if the azimuth to a known point in the center of his sector is 1300 mils, the student places the fan so that the center ray passes through the map location of this point. With a grease pencil he labels this ray 1300 and the other rays appropriately.

Upon the designation of a target on the ground, the student measures its azimuth with his compass. Then with the fan oriented (the 1300-mil ray over the known point), he will find the target somewhere along the ray representing the azimuth to the target. By comparing the terrain near the target with the map contours along this ray, the student normally comes up with excellent coordinates for his initial round.

CBR Training

In keeping with Army emphasis on CBR (chemical, biological, radiological warfare)



New Academic Building at Fort Sill

This is the architect's conception of the new academic building planned for The Artillery Center, Fort Sill, Okla. Construction is expected to begin this year.

training, the Department of Combined Arms has expanded its conference on biological warfare to include the other members of the CBR family. The new three-hour conference is designed to give students a basic appreciation of CBR warfare and is attended by battery officers and OCS classes.

H-25 Transition Training

TAS began transition training on the H-25 helicopter in January. The H-25, officially dubbed the "Army Mule" by Army Field Forces, is a medium-size tandem (two main rotors) helicopter designed for light transport and evacuation of wounded.

New Training Films

Field Artillery Radar. The Signal Corps Photographic Center, working in conjunction with the Department of Observation, TAS, has recently completed work on a new training film, TF 6-1757, *Field Artillery Radar*. To be released shortly, the film orients artillerymen on the capabilities and limitations of radar when employed with field artillery. It depicts the basic siting requirements for a counter-mortar or counterbattery radar. In live action sequences the film explains the techniques by which radar is used to locate enemy weapons, to register and adjust friendly artillery, and to detect and locate moving ground targets such as enemy vehicles and personnel. The film shows the artillery's newest radar, the AN/MPQ-10. Weighing about 3 tons, the set is mounted on a 40mm gun carriage and towed by a conventional 2½-ton truck. A separate console containing the necessary dials and controls permits remote operation of the equipment.

Viewing time of the black-and-white film is approximately 25 minutes.

RSOP. Review of TF6-1813, *Field Artillery RSOP*, has recently been completed at TAS. In two parts, it is designed to familiarize field artillery personnel with the actions and duties of key personnel in the reconnaissance, selection, and occupation of position. It was especially prepared for use in units preparing to undergo advanced tactical training. Part I covers RSOP from the rendezvous and Part II from the march. In black and white, the film lasts approximately one hour.

ORC Lecture Tour

Mobile Instructional and Demonstration Team No. 4, a group from the Combined Arms Department, are visiting ORC schools throughout the Fourth Army Area.

The team instructs reservists "The Infantry-Tank-Artillery Team." The tour is designed to acquaint reservists with current doctrine and technique in the training and employment of combined arms. Emphasis is placed on functions of the various arms, communications, control measures, and the individual as a member of the team.

Infantry School Instructional Material

The following new instructional material suitable for non-resident as well as resident instruction may be ordered from the **Book Department, The Infantry School, Fort Benning, Ga.**, at the prices shown. (The COMBAT FORCES Book Service regrets that it cannot handle orders for these pamphlets.)

WEAPONS DEPARTMENT

Mechanical Training, M1 Rifle: No. 1102. General data: nomenclature, disassembly, assembly and functioning. TF 9-117. "Principles of Operation. M1 Rifle." 4 hours. 6¢

Marksmanship Practice Firing SMG: No. 1157. Range procedure; safety precautions; demonstration firing; practice firing, SMG. 1 hour. 10¢

Hand Grenades: No. 1202. Types, characteristics, functioning, positions, throwing of explosive grenades; throwing of training hand grenades; grenade assault course. 3 hours. 10¢

Technique of Rifle Fire: No. 1265. Field target firing. Introduction to field targets to include squad control, issuance of orders, distribution of fire, teamwork, target control and firing limits. Practical work in field target firing. 8 hours. 10¢

Mechanical Training, Cal .30 MG M1919A6 and M1917A1: No. 1302-09. Methods of training, general data; nomenclature; disassembly and assembly; head-space adjustment; functioning; stoppages and immediate action. 6 hours. 6¢

Marksmanship Cal. .30 MG M1919A6: No. 1333. General orientation; methods of instruction; instruction practice firing, Table II, Course A; concurrent training in mechanical training, and measuring and laying off angles. 8 hours. 6¢

Marksmanship, 57mm Rifle: No. 1725. Characteristics of ammunition; safety precautions; organization squad and section; sighting and aiming; stadia sight; qualification courses, and position. 4 hours. 10¢

Marksmanship, 57mm Rifle: No. 1758. 1000-inch subcaliber Course "C," safety precautions, range organization. 4 hours. 10¢

TACTICAL DEPARTMENT

Interior Battalion in Attack: No. 2222. Principles applicable to interior units in offensive combat; map exercise illustrating a reinforced interior battalion in attack emphasizing assembly area phase, troop leading, preparations for and conduct of the attack. 4 hours. 30¢

Coordinated Fire Plan: No. 2409. Coordinated fire plan of a front-line battalion to include: the development of long range fires; close defensive fires, final protective fires, and fires within the battle position; roles of machine guns, 81mm mortars, heavy mortars, and field artillery with emphasis on the employment of the fires of these supporting weapons. 2 hours. 5¢

COMMUNICATIONS DEPARTMENT

Communications for an Infantry Regiment in Attack: No. 3665. The duties of battalion and regimental communications officers and the principles of employing signal communications for these units during the attack, with emphasis on the selection of command posts and means of maintaining communication with adjacent units. 3 hours. 40¢

STAFF DEPARTMENT

Strengths, Records and Reports: No. 6404. Methods and techniques of maintaining the journal and work sheets. Purpose and methods of strength reporting; sources and use of data. Importance of and methods of casualty reporting. S1 responsibility for records and reports. 3 hours. 30¢

Unit Report: No. 6448. Regimental unit report to include time of submission, period covered, purposes and uses and preparation of the report by the regimental staff. 3 hours. 50¢

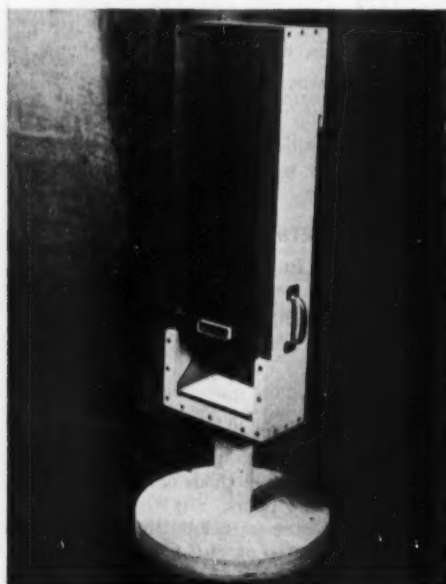
New Academic Building under Construction. The Artillery School has departed from the traditional Spanish in favor of modern architecture in the design of its new academic building now under construction. Shown in the artist's drawing above, the two-story, reinforced concrete building will resemble an airplane when viewed from above, the "nose" pointing to the south. The "wingspan" will approximate 540 feet, the "tail" 274 feet and the "fuselage" 300 feet. The giant building will comprise some 190,000 square feet of floor space and contain 180 rooms, including 41 offices, 48 classrooms, a snack bar, and an auditorium seating 400.

Irons in the Fire



General Use Tent

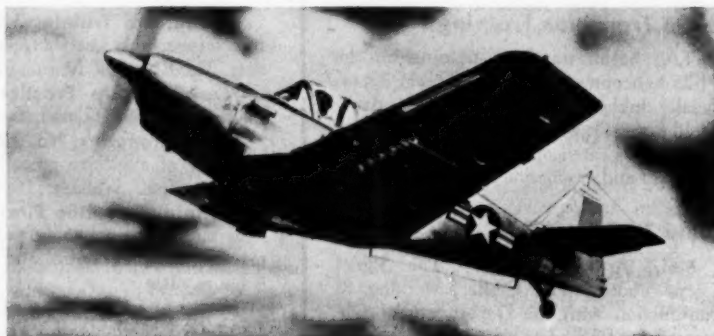
The QM Department of AFF Board No. 3 is testing a general purpose tent which might make an ideal command post and battalion aid station tent. The need for a small portable tent which can be pitched or struck in a matter of minutes and loaded into a jeep or jeep trailer without impairing the operation of the vehicle has long been apparent. To meet all the requirements for this general purpose tent, it must be easily adapted to black-out situations and must be of a size which can be easily hidden in routine camouflage practice. The QM Corps Textile Products Division has worked out many designs but none has completely fulfilled the requirement. The latest model, which is undergoing comparative tests with the standard 1945 CP tent, appears to come close to all requirements. It is being tested at the Arctic Test Branch and by the Caribbean Command. The goal is a design which can be used for: (1) Command Post for Battalions and Regiments; (2) Battalion Aid Station; (3) Small Unit Storage; (4) Fire Direction Center; (5) Chaplain's Consultation Room.



Portable Periscope

FO Periscope

This light, portable periscope was developed by The Artillery School to train forward observers in the adjustment of close-in fires. Simple but effective, it enables the observer in a dugout to adjust fire within fifty yards of his position. So far only a training instrument, it is not yet available for distribution.



T-35 Buckaroo Trainer

New Training Planes

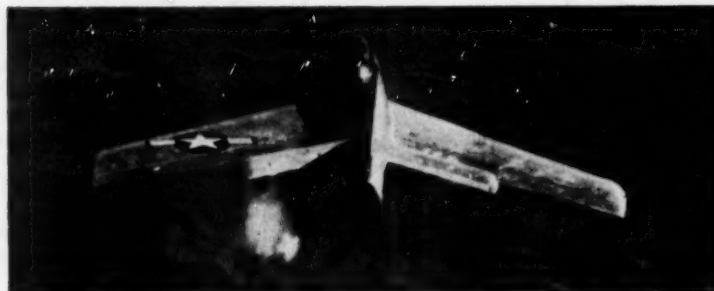
Two new training planes are in the news this month. USAF has awarded a contract to Cessna Aircraft Company for the development of a twin-jet primary training aircraft which will be known as the Cessna Model 318. Cessna's proposed model provides for a lightweight, all-metal, single-wing aircraft incorporating two-place, side-by-side seating and powered by two low-thrust, centrifugal flow, turbo-jet engines. The aircraft will also be equipped with a fully retractable tricycle landing gear. Temco Aircraft Corp. has a contract to produce a limited number of the T-35 Buckaroo trainer and ground support aircraft. The T-35 is an all-metal trainer powered by a 165 horsepower Franklin engine. It will be equipped to carry two caliber .30 machine guns with 500 rounds for each gun, a gun camera, gun sight and ten 2.25-inch rockets complete with intervalometer fire control system.

Light Steel

Steel has long been too costly for use in house or small-buildings construction, but Penn Metal Co. is now making lightweight steel sections that may prove economically feasible for smaller construction jobs. The sections, fabricated from strip steel by cold rolling, are designed for custom framing. They can be easily cut and welded in any design. Single sections can be spot welded back-to-back for heavy loads and long spans. A crisscross pattern gives strength and lightness. At present sections are available in standard widths of 3½-inch, 4-inch, and 8-inch in 14 and 16 gauge steel.

New Jet Fighter

USAF has accepted an advanced design of the Thunderjet—the F-84F Thunderstreak, manufactured by Republic Aviation. The swept-wing fighter is in the over-600-miles-an-hour class and is capable of long-range performance. It is powered by the new Sapphire power plant, called J-65 by the Air Force, which produces 7200 pounds of thrust, making it one of the most powerful jet engines in operational service today.



Republic's F-84F Thunderstreak

★ BOOK REVIEWS ★

BILLY MITCHELL

GENERAL BILLY MITCHELL: Champion of Air Defense. By Roger Burlingame. McGraw-Hill Book Company, 1952. 192 Pages; Illustrated; Index; \$3.00.

Disagreement concerning General Billy Mitchell's character and influence on events will undoubtedly never be settled to everyone's satisfaction. The hero worshipers claim too much, the detractors are too prone to belittle and criticize. Mr. Burlingame's efforts to steer a neutral course in this brief and readable biography are reasonably successful. He seeks to make the controversial general a wholly predictable human being by analyzing his character and his military achievements that began in the Spanish-American War. His accounts of Mitchell's experiences in the Signal Corps and his early flying are sympathetic and understanding. Mitchell's personal bravery, moral courage, intense energy and ability as a flyer made him a natural leader in aviation in France in World War I. His very enthusiasm for his profession, however, antagonized many people then and subsequently. As I knew Billy Mitchell personally and admired him for his many qualities, I always regretted that his foresight in anticipating the future of air power could not have been tempered by diplomacy and tact and by a greater discrimination in his claims for air power.

What I mean is well illustrated by Mr. Burlingame who occasionally allows himself to be blinded by the enthusiasms of his protagonist. He writes that in 1914 Mitchell "saw an entirely new kind of war which would scrap all the previous military thinking through history: would nullify fortifications, reduce sea power, set a whole new pattern for intelligence, and, finally, bring civil populations under fire." There is no question about the final statement nor is there any debate concerning the valuable contribution of aviation to intelligence. On the other hand, national security is not served by stating that air power would scrap all previous military thinking. The hard-learned lessons of strategy still prevail. Again it is an unwarranted exaggeration to say that air power nullifies fortifications. Reading the daily newspapers is ample evidence that the field fortifications in North Korea are extremely invulnerable to air attack.

Let us consider that statement about sea power. If we did not control the seas, the amount of flying in Korea would be greatly diminished. This tendency on the part of General Mitchell and Mr. Burlingame to deny the importance of sea power is unfortunate. Although the author refers to the Japanese attack on Pearl Harbor in one place as the use of a strategic air force, elsewhere he points out that the air attack came from Japanese flattops. Under these circumstances it is somewhat difficult to

understand the unwillingness to admit the military value of naval aviation and of sea power.

Today there is recognition of the great service rendered his country by this ardent enemy of the *status quo*. Mr. Burlingame's life of General Billy Mitchell is a labor of love that is generally persuasive and always interesting.—BRIGADIER GENERAL DONALD ARMSTRONG.

WHAT HAS HAPPENED TO US

THE BIG CHANGE. By Frederick Lewis Allen. Harper & Brothers. 293 Pages; Appendix; Index; \$3.50.

Men in the armed forces should welcome Mr. Allen's book as something they ought to know if they are to perform their professional duties with understanding. For in the colloquial language of everyday life, Mr. Allen contrasts the United States of 1900 with 1950 and accounts with notable success for the present structure of American society. His book is history but not the stuffy chronicle that scholarly historians used to write. Mr. Allen reminds us of the incredible material advances of the past half century, but he is more concerned with the less obvious changes in our social, economic and governmental institutions and in our basic ideas that have gone hand in hand with the material improvements our people enjoy. His book is a thoroughly enjoyable short cut to a better understanding of the American way of life.

Military men are increasingly aware of the need for broadening their horizons with this kind of knowledge. They know they cannot be indifferent to the tangible and intangible things that are the real foundation of national power. They deal intimately with the more than 155 million men and women who live in the U. S. They depend on the skills of these millions and on their morale to provide the big battalions for battle or better still, to build up an army, navy and air force that will lessen the chances of war. They look to the farms, forests, factories and all the other economic resources and tools of production to furnish food, clothing and weapons. They realize that the way government, industry and labor are organized to work together harmoniously and effectively will determine the success or failure of their efforts. There is great need that they comprehend the civilization in which they live and work.

Mr. Allen delves into the ways of American industry and labor in 1900 with devastating honesty and plain speaking. The old order has many aspects that were as antisocial as the *Ancien Régime* before the French revolution. The special rights and privileges of corporations, the control exercised by the banking fraternity, gave insufficient consideration to the rights of men and to human relations. Labor endured

long hours and low wages. There was a degree of non-interference with industry and banking that today is almost unbelievable. *Laissez faire* was the order of the day.

The comparatively dark picture of social and economic conditions in 1900 suggests many excellent reasons for the subsequent "revolt of the American conscience." Mass production and new inventions and a better distribution of wealth made the United States a better place to live and work in. In spite of the tragic years that followed the 1929 crash, the United States advanced by evolution instead of revolution. Mr. Allen's summary of the new America shows us to be a nation still far removed from the millenium, but nevertheless a nation that has made heartening progress. These times are, the author concludes, "despite the stormy international skies, an age of promise."

What then are the points of particular importance for the readers from the armed forces? First and foremost, it is clear that the morale of the American people has greatly improved in fifty years. The American citizen now has a personal stake in his country unparalleled in any other nation. Nothing could be of greater importance to our military potential. At the same time the military leaders must realize the changes brought about by mechanization. Mr. Allen finds that "at the mid-century there are fewer and fewer people working with their hands, more and more people are working at desks; fewer workers with brawn, more workers with brain; fewer whose jobs require only a limited education, more who need an advanced education." Industry and business in general have grown in efficiency through professional management, although there is much to be done in the years ahead. Private business in private hands, increasingly considerate of the public welfare, has given this nation the efficiency and flexibility in production that has astounded the world in two major wars. It is not surprising that he concludes, "The United States is not evolving toward socialism but past socialism."

This by no means exhausts the features of this book especially useful to the armed forces reader. It is not all good news. The past fifty years have created problems that may cause serious trouble in the future. As Mr. Allen points out, we have a burdensome public debt, taxation that has practically reached the point of diminishing returns, our prosperity owes too much to the inflationary spiral and is therefore extremely vulnerable and our expansion of industrial capacity has probably exceeded consuming ability.

Mr. Allen is a shrewd and articulate guide through the intricacies of fifty years of economic, political, social and cultural history. In appraising the structure of our society so soon after the tumult and shouting of the half century have died away, he has rendered a valuable service to his countrymen.—BRIGADIER GENERAL DONALD ARMSTRONG.

HIGHLY RECOMMENDED

DIVIDED WE FOUGHT. A Pictorial History of the War 1861-1865. Picture Editors: Hirst D. Milhollen and Milton Kaplan. Caption Editors: Hirst D. Milhollen, Milton Kaplan and Helen Stuart. Author of the Text and General Editor: David Donald. The Macmillan Co. 452 Pages; \$10.00.

In 1911, the semi-centennial of the Civil War was commemorated in various ways, but in none more enduringly and more fittingly than with the publication of a monumental photographic history of that war. Those ten volumes included nearly four thousand photographs, largely the work of Mathew Brady and his associates. This costly undertaking must have aroused some misgivings because the public had shown little interest in the military heritage of 1861-65. The editor thought that "the lack of popular interest [in the Civil War] is because this is not a military nation. The great heart of American citizenship knows little of military maneuver, which is a science that requires either life study or tradition to cultivate an interest in it."

A few years later millions of Americans involuntarily acquired personal experience in "military maneuver" and the process continued in the succeeding generation. Our recent wars may explain the ever-growing interest among Americans in the study of the Civil War. At all events it does exist and since the 1911 Brady volumes have long been out of print, the project of republishing them in a single volume was particularly desirable. Besides photographs not previously published, a number of spirited sketches of actual combat made at the front by the Waud brothers and Edwin Forbes add much to the military value of this pictorial anthology. The resulting collection has less than five hundred photographs and drawings, but what it loses in quantity compared to the earlier publication is more than made up by the greatly improved quality of reproduction and by the additions not previously available or used.

These photographs and drawings often speak far more eloquently than pages of history. The striking realism of photography is supplemented by extracts from soldiers' diaries and other contemporary documents that are as vivid and vigorous as the pictures. Mr. David Donald's running commentary on the far-flung operations on land and sea admirably integrates these quotations into a brief but accurate military history. Here it is possible to see the arms and the men of the Civil War, the roads that slowed down military movements and the transportation that used them, the field hospitals and field fortifications, the portraits of scores of generals and a few privates. In fact, these well chosen pictures enable the American of today to visualize the nature of war fought with simpler weapons, with different tactics and with far less attention to sanitation and care of the soldier than we are accustomed to.

The editors deserve much praise for bringing together on the same page pic-

tures and appropriate narrative and for producing a pictorial history that is highly recommended to everyone interested in the war between the states.—D. A.

THE TRENT AFFAIR

ATLANTIC IMPACT 1861. By Evan John. G. P. Putnam's Sons, 1952. 296 Pages; Illustrated; Index; \$3.75.

The most crucial diplomatic incident faced by Lincoln and his Cabinet was the Trent Affair, which arose when Captain Wilkes, in USS *San Jacinto*, seized Confederate commissioners Mason and Slidell from the British mail packet *Trent* in Caribbean waters. Wilkes's action violated a principle we had always supported; Britain in protesting renounced a policy she had steadfastly maintained. In the end the U. S. gave in and British honor was saved. The Confederacy got back its commissioners, but its overseas relations weren't made any happier when the hoped-for break between Britain and the U. S. was averted. Anyway, official Britain wasn't as hostile to the Union as the Confederates believed.

Into this history of the negotiations that led to settlement Evan John (who is British Army Captain E. J. Simpson) interlaces sketches of some of the persons prominent in influencing public opinion here and abroad: the harassed Lincoln, Secretary of State Seward, militant poetess Julia Ward Howe, lady abolitionist Harriet Stowe, U. S. Ambassador Charles Francis Adams; Confederate President Davis, his Secretary of War, Judah Benjamin, and General Lee; Prime Minister Lord Palmerston, Foreign Secretary Lord John Russell, British Ambassador Lord Lyons, war correspondent William Russell; Karl Marx, living in England at the time; and Albert, Prince Consort, who phrased the final note that provided for Seward the loopholes needed to frame a reply satisfactory to all hands. It's good reading, spiced with frequent salty humor and mild sarcasm that will draw many a chuckle from the American reader.—N.J.A.

MARINES IN KOREA

THE NEW BREED. By Andrew Geer. Harper & Brothers, 1952. 395 Pages; Illustrated; Maps; Index; \$3.50.

The body of men from which the 1st Marine Division was drawn in World War II was described by the late Colonel Thomason as "... the old breed of American regular, regarding the service as home and war an occupation. . . ." There are only a handful of that breed left in the Corps, for most of them lie on Pacific islands. Their successors, regular and reserve, are the New Breed. The spirit is the same, says Major Geer, although "the uniformity of size is no longer there, nor do they have the length of professional military training."

After-action interviews of 697 New Breed Marines gave Major Geer the material for this account of their part in EUSAK's operations, from the time they became committed in August 1950, in the

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Off-Duty Reading

SHOOTIN' IRONS AND CASTIN' RODS

SOME mighty fine new books for sportsmen have appeared lately, and this looks like a good time to give the word to those of you who are hunting and fishing fans.

FOR the real, dyed-in-the-wool, incorrigible gun bug, we have to hand the prize to *Winchester: The Gun That Won the West*, by Harold F. Williamson (Sportsman's Press, \$10.00). "Winchester" is almost another word for "rifle" in the American language, and will probably take up more space in the index of a book on rifles than any other single name. But we never realized until we read this book that the history of the company was just as fascinating as the history of its product. Dr. Williamson has done a magnificent job of tying together Winchester's business history and the development of its firearms. *Winchester: The Gun That Won the West* might well be called the history of a company and an outline of an era in American small-arms manufacturing. But that isn't all. There are hundreds of illustrations, many of them rare, and information and illustrations of every rifle and cartridge Winchester has produced commercially over its long history. It is just about the best \$10.00 worth of gun book in print today.

FOR the big-game rifleman we recommend either of these: *The Big Game Rifle*, by Jack O'Connor (Knopf, \$7.50) or *How To Select and Use Your Big Game Rifle*, by Henry M. Stebbins (Sportsman's Press, \$5.00). Both authors are veteran hunters and riflemen and both are recognized authorities in the field. We recommend the O'Connor book for the man who already has a good deal of experience and may want to expand either his gun collection or his hunting experience beyond the point the average big game hunter reaches. Doc Stebbins seems to us to be more understandable to the beginner, and to have a better understanding of the beginner's problems. We don't mean that the Stebbins book is a primer (the most experienced hunter can learn plenty from either book) but for our money it is clearer and somewhat better organized.

ANY trout who may be reading this column will be sorry to hear that the trout fisherman's bible is back in print, bigger and better than ever. We mean, of course, Ray Bergman's *Trout* (Knopf, \$7.50), in a new, enlarged edition. The new book includes all the development in trout fishing since the first edition was published in 1938, including two chapters on spinning, and some revision of Ray Bergman's earlier thinking. There has never been another book about trout fishing as complete as this one.

WE'D like to remind you, too, of four standard books for the shooter who wants to go beyond rifles and cartridges as they come from the manufacturer. These are *Gunsmithing Simplified*, by Harold E. MacFarland (Sportsman's Press, \$6.95) and James V. Howe's *Modern Gunsmith* (Funk & Wagnalls, \$15.00). These two books complement each other almost perfectly. *Gunsmithing Simplified* is a book that will teach the novice the elements of gunsmithing and bring him along until he is a good, competent workman, ready for the fine points and harder jobs that Howe covers.

THE second pair of books we commend are Col. Townsend Whelen's *Why Not Load Your Own* (Sportsman's Press, \$3.50) and Phil Sharpe's *Complete Guide to Handloading* (Funk & Wagnalls, \$10.00). Col. Whelen tells his readers, step by step, how to handload some 40 basic loads. Sharpe assumes you know how and goes on from there as far as you want to go with him.

IF those books won't keep you busy for the next five years or so, let us know and we'll give you another installment on sportsmen's books.—O.C.S.

push to the Nakdong, through Inchon to Seoul, out of Chosin Reservoir, and into those heartbreaking days of December. Though the book concerns troops of the Marine Corps, it is a story of the infantryman in combat. That's what a Marine is, essentially, by the Corps' doctrine and in action. *The New Breed* is not a unit history as we understand the term; it is a running report of combat experiences, mainly of individual Marine ground fighters, groups, squads and platoons and their leaders, that gives the reader a clear understanding of what the fighting in Korea is like at the foxhole level. It's gratifying to see an author emphasize the fine spirit of the team that seems to animate our people in Korea. There is incident after incident of mutual support, outfits plugging holes in others' lines, combined armor and artillery actions, fine service by medical men, air-drop battlefield supply, tactical air support.

No Captain Flagg-Sergeant Quirt romance here, no belittling of other services, no blaring strains of the Marine Corps Hymn. Only a picture of the grim, dirty, agonizing action that is the ground fighter's business, whatever his weapon or uniform.

—N.J.A.

BOOKS RECEIVED

KOMOON! CAPTURING THE CHAD ELEPHANT. By Heinrich Oberjohann. Pantheon Books, Inc. 219 Pages; Illustrated; \$3.00. Studying the elephants in their native haunts.

THE TAMING OF THE NATIONS: A Study of the Cultural Bases of International Policy. By F. S. C. Northrop. The Macmillan Company. 362 Pages; Index; \$5.00.

LES ENSEIGNEMENTS DE LA GUERRE DE COREE. By Camille Rougeron. Editions Berger-Levrault. 263 Pages.

THE OLD TESTAMENT: KEYSTONE OF HUMAN CULTURE. By William A. Irwin. Henry Schuman, Inc. 293 Pages; Index; \$4.00.

THE BLACK EARTH. By Hans Habe. G. P. Putnam's Sons. 311 Pages; \$3.50. A novel by the author of *Ten Thousand Shall Fall*.

TELL IT TO THE CHAPLAIN. By Chaplain Robert Chapman. Exposition Press. 151 Pages; \$3.00. A chaplain's experiences.

THE MECHANISMS OF DISEASE: A Study of the Autonomic Nervous System, the Endocrine System and the Electrolytes in their Relationship to Clinical Medicine. By Joseph Stambul, M.D. Froben Press, Inc. 746 Pages; Index; \$15.00.

TIME FILLERS. By Albert A. Ostrow. Harper & Brothers. 134 Pages; Illustrated; Index; \$2.50. A puzzle and game book to use while you are alone.

MY ISLAND HOME: The Autobiography of James Norman Hall. Little, Brown & Company. 374 Pages; Illustrated; Index; \$4.00.

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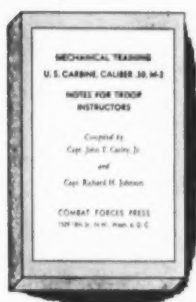
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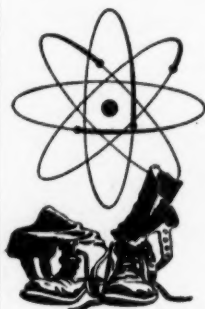
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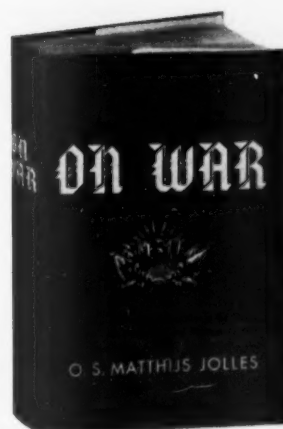


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